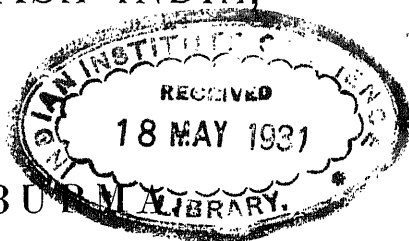


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D.Sc., F.R.S., I.M.S. (*ret.*).

COLEOPTERA.

STAPHYLINIDÆ.—VOL. II.

BY

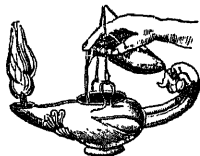
MALCOLM CAMERON, M.B., R.N., F.E.S.

L O N D O N :

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February, 1931.

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AUTHOR'S PREFACE.

THIS small volume deals with the Subfamily PÆDERINÆ only, since it seems undesirable to divide a subfamily between two volumes, while to have included the whole of the next subfamily, the STAPHYLININÆ, in the present one would have swollen it to an inconvenient size. The next volume will embrace the Subfamily STAPHYLININÆ and, perhaps, the small Subfamilies TRICHOPHYINÆ, TERMITODISCINÆ, and PYGOSTENINÆ, and it is hoped that it will be ready for publication at the end of this year. It may be advisable here to draw attention to the following corrections which should be made in the first volume:—

Vol. I. p. 312.

361. *Oxyporus flavicornis*.

This insect is not the *flavicornis* of Schubert, and the name *proximus* is accordingly substituted for it. *O. flavicornis* Schub.* differs from this species by its longer and broader head, and by having the eyes a little smaller, the thorax narrower, less transverse, with the sides almost parallel, and the 3rd (visible) abdominal segment more broadly black.

The following names being preoccupied should be altered:—

P. 337. *Stenus aeratus* to *renominatus*.

P. 347. *Stenus lugubris* to *castigator*.

P. 370. *Stenus frater* to *correctus*.

M. CAMERON.

February 1931.



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CORRIGENDA.

P. 24, line 21, for *andrewsi* read *andrewesi*.

P. 86, line 8, for *apicalis* read *melanurus*.

Subfamily VII. PÆDERINÆ.

Head more or less constricted behind, the neck variable. Antennæ 11-jointed, filiform, inserted under the prominent anterior angles of the front. Mandibles falciform, usually toothed. Maxillary palpi 4-jointed, the 4th joint small and subulate, or papillose and scarcely distinguishable from the apex of the 3rd joint (PÆDERINI) or large and more or less fusiform or securiform (PINOPHILINI). Labial palpi 3-jointed, the last joint small and pointed. Scutellum visible. Elytra not or scarcely extending beyond the level of the metasternum. Prosternum well developed, the epimera usually large and triangular, fused externally with the pronotal epipleura and concealing the stigma, occasionally (*Lithocharis*, *Cryptobium*) wanting and then the stigma exposed. Abdomen with the 1st ventral segment often medially carinate. Anterior coxæ large, conical, prominent. Tarsi 5-jointed.

Key to the Tribes.

- | | |
|--|--------------------|
| 1. 4th joint of the maxillary palpi large and more or less fusiform or securiform..... | PINOPHILINI, p. 1. |
| 4th joint of the maxillary palpi small, subulate or papillose | PÆDERINI, p. 31. |

Tribe 1. PINOPHILINI.

This tribe is characterized by the large and more or less securiform 4th joint of the maxillary palpi.

Key to the Genera.

- | | |
|--|---|
| 1. Abdomen bordered | PINOPHILUS Gr., p. 2. |
| Abdomen not bordered | 2. |
| 2. 4th joint of the maxillary palpi securiform; post-ocular region truncate | PROCIRRUS Latr., p. 18. |
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| 3. Post-ocular region rounded. Abdomen punctured. First four joints of the anterior tarsi separately dilated, not patellate. Post-ocular region truncate. Abdomen with imbricate sculpture. First four joints of the anterior tarsi dilated and patellate..... | <p>ÆDICHIRUS Er., p. 25.</p> <p>PALAMINUS Er., p. 20.</p> |

Genus **PINOPHILUS** Grav.

- Pinophilus* Grav., Col. Micr. Brunsv. 1802, p. 201; Cast., Etud. Ent. i, 1835, p. 121; Nordm., Symb. 1836, p. 154, t. 2, f. 6; Er., Gen. Spec. Staph. 1839-40, p. 669 (+ *Aræocerus* Nordm.); Lacord., Gen. Col. ii, 1854, p. 102; Kraatz, Naturg. Ins. Deutsch. ii, 1856-58, p. 667; Lynch, Bol. Ac. Nac. Cord. vii, 1884, p. 305; Sharp, B. C.-A. i, 2, 1882-87 (1886), p. 620; Casey, Mem. Col. i, 1910, p. 193; Gridelli, Mem. Soc. Ent. Ital. vi, 1927, p. 112.
- Lathrobium* Fam. I, Grav., Mon. Micr. 1806, p. 129.
- Pityophilus* Brullé, Hist. Nat. Ins. iii, 1835, p. 75.
- Lycidius* Leach in Dej. Catal. ed. 3, 1837, p. 73 (*Lycidius*).

Usually large or rather large elongate subparallel species. Head exserted, constricted behind the eyes, the neck thick: gular sutures distinct in front, converging and evanescent behind. Antennæ 11-jointed, the penultimate joints slender and more or less clavate or short and obconical. Labrum very short, broad, rounded in front without teeth or emargination. Mandibles falciform, each with a strong tooth about the middle, the apex of which is truncate and emarginate. Inner lobe of the maxilla narrow, pointed, its inner margin with long, coarse, close cilia; outer lobe short and broad, the truncate apical margin more finely and shortly ciliate than the inner, but with a larger and coarser brush of cilia at the outer angle. Maxillary palpi 4-jointed, the 1st joint very small, 2nd elongate, dilated towards the apex, the 3rd shorter, the 4th elongate, securiform, the whole outer surface flattened, the inner margin gently curved. Submental plate obtriangular. Mentum short, broad, narrower in front. Tongue membranous, divided by a deep triangular emargination into two lobes, densely ciliate towards the sides. Paraglossæ well developed, not extending beyond the tongue, densely and strongly ciliate. Labial palpi short, the 1st joint short and broad, the 2nd longer, oval, the 3rd narrower and a little shorter than the 2nd, oval, before the apex with a constriction. Prosternum keeled, its process laterally compressed; trochantin visible. Epimera large, triangular, separated by a raised line from the pronotum. Anterior coxæ contiguous. Mesosternum constricted in front to form a neck, its process short, keeled, extending but a short distance between the coxæ, these contiguous. Episternum large, forming part of the outer margin of the coxal cavity; epimeron small, subtriangular. Metasternum triangularly emarginate behind in the middle, on either side rather strongly and broadly emarginate before the posterior coxæ, the process not meeting that of the mesosternum. Abdomen bordered above, the 1st ventral segment strongly keeled in the middle. Elytra truncate. Scutellum visible. Anterior coxæ elongate, exserted, femora stout; tibiæ ciliate, emarginate externally before the apex; first four tarsal joints very strongly dilated and patellate, the 5th

elongate, claws simple. Middle coxæ elongate, contiguous, prominent; tibiæ more or less emarginate externally before the apex, ciliate; tarsi with the first four joints short, the 4th with a broad lobe below projecting below the 5th joint. Posterior coxæ conical, prominent, the tibiæ as in the preceding pair, tarsi with the 1st joint rather long, 2nd to 4th short, the latter with a broad lobe below. Claws simple.

The insects are found throughout the warmer regions of the world, usually in damp vegetable débris, trunks of decaying trees, etc.

Key to the Species.

1. Elytra much shorter than the thorax 2.
Elytra about as long as or longer than the thorax 3.
2. Larger (11 mm.); the head shining, the rest of the body opaque *funestus* Bernh., p. 15.
Smaller (5·75 mm.); shining species *brachypterus* Kr., p. 14.
3. Thorax black, with distinct cyaneous and violet reflex; elytra red *beccharii* Fauv., p. 15.
Thorax otherwise coloured 4.
4. Thorax and elytra bright red, the base of the latter, head and abdomen black [p. 12. *melanocephalus* Motsch.,
Thorax and elytra otherwise coloured 5.
5. Species uniformly ferruginous or reddish-testaceous 6.
Species black or pitchy in greater part 8.
6. Antennæ slender, the penultimate joints clavate 7.
Antennæ short and stout, the penultimate joints subquadrate *brevis* Kr., p. 10.
7. Larger (10 to 10·5 mm.) *ferrugineus* Bernh.,
Smaller (7·5 to 8 mm.). Subdepressed species [p. 9. *genalis* Fauv., p. 14.
8. Antennæ with the penultimate joints longer than broad, slender and clavate 9.
Antennæ with the penultimate joints subquadrate or obconical 27.
9. Elytra castaneous 10.
Elytra black or pitchy 11.
10. Larger (10·5 mm.). Head closely punctured except for a curved transverse area between the antennal tubercles and a triangular space on the front which are impunctate *speculifrons* Cam., p. 8.
Smaller (8·5 mm.). Head coarsely and irregularly punctured *thoracicus* Fauv., p. 12.
11. Head with dense pubescence, the preceding with silvery pubescence closer at the sides 12.
Abdomen uniformly pubescent 13.
12. Head and thorax subopaque, more finely punctured; elytra rugose *borneensis* Fauv., p. 13.
Head and thorax shining, more coarsely punctured; elytra scarcely rugose *nigripes* Cam., p. 13.

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|--|------------------------------------|
| 13. Larger species (8.5 to 22 mm.)..... | 14. |
| Smaller species (6 to 7 mm.)..... | 25. |
| 14. Sculpture of the thorax uniform, consisting of a simple or umbilicate puncturation.. | 15. |
| Sculpture of thorax consisting of larger punctures, their fundi and interspaces finely punctured..... | 21. |
| 15. Head with a scattered and sparing puncturation, not at all rugose at the base .. | 16. |
| Head, especially at the base, closely more or less rugosely punctured..... | 17. |
| 16. Larger (20 mm.); legs red | <i>indicus</i> , sp. n., p. 7. |
| Smaller (13 to 15 mm.); legs in part dark. | <i>complanatus</i> Er., p. 5. |
| 17. Legs in part black; larger (19 mm.) | <i>variipes</i> Fauv., p. 7. |
| Legs entirely red or yellow; smaller species. | 18. |
| 18. Thorax closely and distinctly punctured.. | 19. |
| Thorax densely and very obsoletely punctured | <i>planus</i> Kr., p. 8. |
| 19. Elytra entirely black..... | 20. |
| Elytra black, the posterior margin and angles more or less rufescent; abdomen pitchy red, the apex and posterior margins of the segments rufescent | [p. 11. |
| 20. Larger (15 mm.) and more shining; legs red; apex of abdomen sometimes obscurely red..... | <i>malabarensis</i> , sp. n., |
| Smaller (9 mm.) and less shining; legs yellow; the posterior third of 7th and whole of 8th segments bright reddish-yellow | <i>egyptius</i> Er., p. 5. |
| 21. Legs in part dark; larger (18 mm.) | <i>leucopus</i> Kr., p. 10. |
| Legs clear red or yellow; smaller | <i>mixtus</i> Cam., p. 6. |
| 22. Larger species (15 mm.)..... | 22. |
| Smaller species (9 to 11 mm.) | <i>javanus</i> Er., p. 5. |
| 23. Posterior margin of 7th and whole of 8th abdominal segment bright reddish-yellow; antennæ with the apex of 3rd to 11th joints distinctly blackish..... | 23. |
| Apex of abdomen not or only obscurely reddish; antennæ with the apex of joints not or scarcely infusate | <i>picticornis</i> Kr., p. 11. |
| 24. Front of head at the sides thickly punctured | 24. |
| Front of head at the sides with a few scattered punctures; depressed species .. | <i>vicinus</i> , sp. n., p. 11. |
| 25. Sides of thorax coarctate with the base .. | <i>depressus</i> Kr., p. 9. |
| Sides of thorax not coarctate with the base. | <i>rotundicollis</i> Kr., p. 17. |
| 26. Black species; thorax transverse | 26. |
| Pitchy species; thorax about as long as broad; head in front with broad impunctate space | <i>melanomerus</i> Kr., p. 16. |
| 27. Head and thorax closely punctured..... | <i>piccus</i> Fauv., p. 11. |
| Head and thorax sparingly and irregularly punctured | 28. |
| 28. Larger (10.5 mm.). Less shining; head without impunctate space in front | <i>ceylonicus</i> , sp. n., p. 17. |
| Smaller (8.5 mm.). Very shining; head with impunctate space in front | <i>bomfordi</i> Epp., p. 17. |
| | <i>pilicollis</i> Motsch., p. 18. |

515. *Pinophilus ægyptius*.

Pinophilus ægyptius Er., Gen. Spec. Staph. 1839-40, p. 673.

Pinophilus rufipes Kr. (*ruficeps* err. typ.). Arch. Naturg. xxv, 1859, i, p. 155; Fauv., Rev. d'Ent. xxiii, 1904, p. 50.

Elongate, depressed, black, rather shining, the apex of the abdomen reddish. Antennæ reddish. Legs red, coxæ black. Length 15 mm.

Head subtriangular, the temples well developed, the eyes rather small, closely, moderately coarsely punctured behind, the punctures umbilicate, the front and the vertex with a few fine punctures, internal to the antennal tubercles on each side with a few umbilicate punctures. Antennæ long and slender, reaching the base of the thorax, all the joints longer than broad. Thorax slightly longer than broad, the sides almost straight and retracted to the base, the posterior angles rounded, before the base with a short extremely fine impressed line, the puncturation rather close and much finer than that of the head. Elytra a little longer than but as broad as the thorax, with similar but less fine puncturation. Abdomen closely and rather finely punctured, the segments on each side with a single larger puncture. Pubescence brownish, thicker on the abdomen.

Ceylon. Malabar. Berhampur. Also in Egypt, Zanzibar, and Java.

516. *Pinophilus javanus*.

Pinophilus javanus Er., Gen. Spec. Staph. 1839-40, p. 672; Kraatz, Arch. Naturg. xxv, 1859, i, p. 156; Fauv., Rev. d'Ent. xxiii, 1904, p. 50.

Pinophilus pallipes Kr., Arch. Naturg. xxv, 1859, i, p. 156.

Pinophilus insignis Shp., Trans. Ent. Soc. Lond. 1874, p. 77.

Size, build, and colour of *ægyptius*, but differing in the following respects: the eyes are much larger and temples shorter, the puncturation of the posterior part of the head is coarser, closer, and rugose, the front has more numerous fine scattered punctures, the puncturation of the thorax is coarser and the fundi of these punctures are themselves finely punctured, the puncturation of the elytra is coarser and more rugose. The coxæ are pitchy.

Ceylon. Nilgiri Hills. Bengal: Dacca. Also in Java, Sumatra, China, and Japan.

517. *Pinophilus complanatus*.

Pinophilus complanatus Er., Gen. Spec. Staph. 1839-40, p. 672; Kraatz, Arch. Naturg. xxv, 1859, i, p. 155.

Pinophilus morio Motsch., Bull. Mosc. xxx, 1857, iv, p. 517.

Size and build of *ægyptius*, with similar small eyes, but more shining, the larger punctures of the head much fewer and with some very fine, sparing, irregularly distributed

punctures; puncturation of the thorax finer and less close, that of the elytra very similar to that of *ægyptius*. The antennæ extend beyond the base of the thorax and are reddish, the legs are blackish, the tarsi reddish.

♂: 6th ventral segment with broad and deep rounded excision and longitudinally impressed throughout the middle; 5th with small rounded emargination and longitudinally impressed throughout the middle.

Burma: Rangoon; Pegu. Also in Siam.

518. *Pinophilus mixtus*.

Pinophilus mixtus Cam., Trans. Ent. Soc. Lond. 1914, p. 534.

Black, rather dull; head with almost smooth, curved, transverse space between the eyes, and the front with an almost smooth space continuous posteriorly with it; puncturation of rest of surface rather coarse and close, with a much finer scanty puncturation on the interspaces and the smooth areas. Thorax scarcely longer than the greatest breadth. Antennæ and palpi reddish testaceous; coxæ dark, anterior femora dark below, anterior tibiæ dark, base of the intermediate and posterior tibiæ narrowly infuscate. Length 18 mm.

Differs from *P. javanus* Er. in the larger size, less shining appearance, the fine puncturation on the front of head less sparing, closer thoracic puncturation, the fundus of the punctures themselves being also punctured, the elytra a little more finely punctured, and the colour of the legs.

Head transverse, a little narrower than the thorax, with rather large, close, but not deep punctures, these at the bottoms and the interspaces more finely punctured: a curved shining transverse space between the eyes and a shining space continuous with it behind occupies the middle of the front, these spaces finely punctured; the sides of the front are strongly punctured; pubescence yellow, scanty. Antennæ slender, the 3rd to 5th joints of equal length, 6th to 11th gradually decreasing in length, but all longer than broad. Thorax slightly longer than broad, narrowed in a straight line from the anterior to the completely rounded posterior angles, the puncturation much coarser than in *P. ægyptius* Er., and the bottoms of the punctures finely punctured, but not the interspaces; disc posteriorly with a very obsolete trace of a median impressed line. Elytra about a third longer than the thorax, much longer than broad, rather more strongly punctured than in *P. ægyptius* Er., but of the same rugose character. Abdomen very similarly punctured to *P. ægyptius*, not iridescent, pubescence moderate, greyish.

♂: Last ventral segment rather deeply emarginate on each side, the intervening portion bordered and very slightly emarginate.

Bengal: Dacca. British Museum Collection.

519. *Pinophilus variipes*.

Pinophilus variipes Fauv., Rev. d'Ent. xiv, 1895, p. 218.

A large, robust, subopaque species with brown pubescence and shining frontal region; palpi, base of antennæ, the anterior femora externally, margin of the 6th and 7th abdominal segment and anus red, the rest of the antennæ and legs testaceous, the coxæ and anterior femora and tibiæ almost entirely blackish, the middle and posterior femora pitchy at the base and apex, the corresponding tibiæ blackish except for the apical third; antennæ long, very slender, the apex of the 3rd to 11th joints infusate. Head large, transverse, short, the front on each side broadly impressed, here and in front sparingly and strongly punctured, the rest of the surface very finely and rather closely punctulate, the vertex within and behind the eyes rugosely punctured, the temples a little dilated the posterior angles rather distinct. Thorax longer than broad, a little wider than the head, a little narrowed from apex to base, the posterior angles entirely rounded, very closely and finely rugosely punctured, the basal keel very short, scarcely sulcate. Elytra scarcely longer than the thorax, with a rather fine, close, transversely rugose puncturation. Abdomen scarcely iridescent, finely and densely punctured, with a long, dense, almost velvety pubescence.

♂: 7th ventral segment emarginate on each side, in the middle produced into a plate clothed with yellow hair. Length 19 mm.

Burma: Bhamo, vii (*L. Fea*) (ex *Fauvel*).

520. *Pinophilus indicus*, sp. n.

Depressed, black, shining; the head very sparingly and finely punctured in front, more closely towards the base. Antennæ, palpi, coxæ, and legs red. Length 20 mm.

Of the build, colour, and lustre of *P. ægyptius* Er., but larger, the posterior angles of the head obtuse, its puncturation finer and much less close, that of the thorax finer and more superficial, the abdomen a little more closely punctured. Head subtriangular, the eyes rather small, the temples well developed, the posterior angles obtuse, finely and sparingly punctured, towards the base rather more closely, the punctures finely umbilicate, between them with an extremely fine scattered puncturation. Antennæ long and slender, extending a little beyond the base of the elytra. Thorax slightly longer than broad, formed as in *complanatus*, in the middle behind with an extremely fine impressed line, the puncturation as close as but finer and more superficial than in *complanatus*. Elytra as broad as but a little longer than the thorax, the puncturation rather finer than in *complanatus*. Abdomen rather closely

and rather finely punctured. The whole insect covered with a brown pubescence.

♂: 6th ventral segment deeply and acutely excised, impressed along the middle; 5th slightly impressed in the middle behind.

India (without further indication). In British Museum.

521. *Pinophilus speculifrons*.

Pinophilus speculifrons Cam., Trans. Ent. Soc. Lond. 1914, p. 534.

Black, head shining, coarsely punctured, with smooth spaces between the eyes and on the front. Thorax and elytra much less shining, the latter reddish-brown. Antennæ, palpi, and legs reddish-testaceous. Length 10.5 mm.

Head transverse, subtriangular, with coarse umbilicate punctures, except for a narrow, smooth, curved, transverse space extending between the eyes and a triangular smooth space at the front margin; pubescence scanty, yellow. Eyes large, temples minute. Antennæ slender, all the joints longer than broad, gradually decreasing in length after the third. Thorax a little broader than the head, slightly broader than long, the sides parallel for the anterior half, thence gradually rounded and narrowed to the completely rounded posterior angles; anterior angles bluntly rectangular; puncturation much less coarse than on the head, umbilicate, disc with narrow smooth central line; pubescence scanty, yellow. Scutellum punctured. Elytra narrower but a little longer than the thorax, a little longer than broad, puncturation strong, deep and close; pubescence yellow, scanty. Abdomen moderately closely and strongly punctured, pubescence yellow, rather long.

S. India: Nilgiri Hills, Oucherlony Valley, alt. 3000 feet, in mud workings of termites in tree (*H. L. Andrewes*).

522. *Pinophilus planus*.

Pinophilus planus Kr., Arch. Naturg. xxv, 1859, i, p. 157.

Depressed, black, antennæ and legs red; head small, triangular, nearly smooth, on each side of the front with four deep punctures in a row; thorax densely and very obsoletely punctured. Length 5 lin.

Readily recognized by the depressed build, the small nearly smooth head, and fine yellow pubescence. Antennæ red, the 3rd joint a little longer than the 2nd, the 4th to the 8th with their apices slightly infusate. Head small and short, narrower than the thorax, depressed, smooth, the extreme base closely punctulate, posteriorly on each side sparingly and more strongly punctured, the front on each side with four deep punctures more or less in series. Thorax almost longer than broad, the apex as broad as the elytra, slightly narrowed towards the base; the apex on each side somewhat sinuate, the

anterior angles rather acute, the posterior depressed, rounded, densely and very obsoletely punctured. Elytra a little longer than the thorax, very closely, distinctly subrugulose punctured. Abdomen closely punctured, the last segment entirely, the apex of the 6th and 7th red. Legs and coxæ reddish-brown.

♂: 7th [6th] ventral segment triangularly excised.
 "Ind. or." (ex *Kraatz*).

523. *Pinophilus ferrugineus*.

Pinophilus ferrugineus Bernh., D. E. Z. 1902, p. 40.

Ferruginous red, subopaque, with grey pubescence; head shining, very closely, unequally punctured behind, in front almost smooth, before the eyes strongly and sparingly punctured. Antennæ, palpi, and legs yellow. Length 10 mm. ($4\frac{1}{2}$ lin.).

Uniform ferruginous red, the elytra and abdomen paler, antennæ, palpi and legs yellowish-white. Head a little narrower than the thorax, strongly transverse, shining, the posterior part very closely covered with larger and smaller punctures, in front smooth, very finely and sparingly punctured, in front of the eyes with a flat impression which is more coarsely and closely punctured. Thorax scarcely narrower than the elytra, the sides straight, the anterior angles rounded at the apex, the posterior completely rounded, rather strongly and very thickly punctured, feebly shining, without trace of a smooth middle line. Elytra much longer than the thorax, more deeply, more strongly, and more thickly punctured, only slightly shining. Abdomen less strongly, only moderately closely punctured, more sparingly behind, and more shining than the elytra.

Ceylon: Anuradhapura (ex *Bernhauer*).

524. *Pinophilus depressus*.

Pinophilus depressus Kr.*, Arch. Naturg. xxv, 1859, p. 157.

Pinophilus verticalis Fauv., Rev. d'Ent. xiv, 1895, p. 219.

Elongate, depressed, black, greasy lustrous, the abdomen slightly iridescent, the apex pitchy. Antennæ and legs reddish-testaceous, the apices of the intermediate joints of the former scarcely infusate. Length 10 mm.

Head subtriangular, more shining than the rest of the body, eyes large, temples small, very finely and closely punctured, the vertex extremely finely and much more sparingly punctured, the front impunctate; at the base, internal to the eyes and internal to the antennal tubercles with a few large umbilicate punctures. Antennæ long and slender, the

* An asterisk in this position means that I have seen the type-specimen.—M. C.

joints all much longer than broad. Thorax a little longer than broad, the sides almost straight, more retracted behind, the posterior angles rounded, in the middle at the base with a small shining keel and a small impression on each side, the sculpture consisting of large superficial moderately close punctures on the disc, but less close towards the sides, and a much finer, closer puncturation occupying the interspaces and also the fundi of the large punctures themselves. Elytra a little longer and a little broader than the thorax, moderately coarsely, rugosely punctured. Abdomen closely, moderately coarsely but superficially punctured. Pubescence grey, thicker on the abdomen.

♂: 6th ventral segment with acute triangular excision, the edges bevelled.

Northern India.

525. *Pinophilus brevis*.

Pinophilus brevis Kr.*, Arch. Naturg. xxv, 1859, i, p. 159.

Rather shining, reddish-testaceous, the elytra yellow, the abdomen pale brown. Antennæ and legs testaceous. Length 6.5 mm.

Head narrower than the thorax, the eyes large, temples minute, moderately coarsely and rather closely punctured, more sparingly in front, the vertex with a small impunctate space, the front in the middle with a larger one. Antennæ very short, only reaching to about the middle of the thorax, the penultimate joints transverse. Thorax a little broader than long, convex, the sides very slightly rounded, more retracted behind, the posterior angles rounded, at the base in the middle with a very short shining keel, the puncturation similar, but rather closer than that of the head. Elytra as broad as but distinctly longer than the thorax, coarsely, closely punctured. Abdomen closely and rather strongly punctured. The whole insect covered with a long yellow pubescence.

I know only the type of this insect, which may be immature. Ceylon.

526. *Pinophilus leucopus*. (Plate I, fig. 1.)

Pinophilus leucopus Kr.*, Arch. Naturg. xxv, 1859, i, p. 158.

Of the build and colour of *P. javanus*, but much smaller (9 mm.), the whole of the 6th and the posterior margin of the 5th abdominal segment reddish-yellow, the legs rather pale yellow. The eyes are large and the temples short as in *javanus*, the head has a similar type of puncturation but with smaller punctures, and the fine secondary puncturation on the front is more sparing. Antennæ slender, not quite reaching the base of the thorax, yellow, the apices of the

joints slightly infusate. Sculpture of the thorax and elytra as in *javanus*, but less coarse. The abdomen is slightly iridescent. Tranquebar. Siwaliks. Also in Siam.

527. *Pinophilus vicinus*, sp. n.

Closely allied to *P. leucopus* Kr., and only differing in the following respects: a little more robust, the 5th abdominal segment entirely black, only the 6th brownish-red, the head is much more closely and extensively punctured, the smooth space on the front and on the vertex being much smaller, the thorax has a double sculpture, the elytral sculpture is less coarse. Length 11 mm.

In the British Museum, without indication as to locality.

528. *Pinophilus malabarensis*, sp. n.

Black, rather shining, the postero-external angles and posterior margin of the elytra ferruginous, the abdomen pitchy, iridescent, the posterior margins of the first four segments and the whole of the following reddish. Legs reddish-yellow. Length 12 mm.

Build of *P. leucopus* Kr., but a little larger and more robust, the elytra a little shorter; head of similar build and very similarly punctured; thorax with simple and finer puncturation, the elytral sculpture less coarse.

Malabar. British Museum Collection.

529. *Pinophilus picticornis*.

Pinophilus picticornis Kr.*, Arch. Naturg. xxv, 1859, i, p. 158.

Of the same build, lustre, and colour as *leucopus*, but a little smaller (8.5 mm.), the antennæ shorter, the joints more extensively infusate so that only their bases are testaceous. The head is sparingly covered with large, superficial, umbilicate punctures, which are closer at the base, and with a fine, rather close, simple puncturation in the interspaces; the thorax has a rather close, superficial puncturation and a much finer one occupying the interspaces and also the fundi of the larger punctures. The elytra and abdomen scarcely differ from *leucopus*.

Ceylon. Also in Saigon.

530. *Pinophilus piceus*.

Pinophilus piceus Fauv., Rev. d'Ent. xxiii, 1904, p. 51.

Near *P. brevicollis* Er., but a third smaller and a little narrower, similarly coloured and scarcely more shining, the thorax, elytra, and abdomen a little more finely punctured, the latter with short pubescence. Antennæ much more slender, all the joints a little longer than broad. The head very

different, much narrower, sparingly and coarsely punctured, the antennal tubercles more prominent, a little impressed internally with a broad smooth space between. Thorax longer and narrower, the smooth median line rather more distinct. Elytra scarcely shorter. Length 6 mm.

Belgaum ; in the rainy season (ex *Fauvel*).

531. *Pinophilus melanocephalus*.

Pinophilus melanocephalus Motsch., Bull. Mosc. xxx, 1857, iv, p. 516 ; Kraatz, Arch. Naturg. xxv, 1859, i, p. 159.

Shining, convex ; head and abdomen black, thorax and elytra bright red, the base and extreme reflexed margin of the latter black. Antennæ red. Anterior legs reddish, the middle and posterior with the femora and apices of the tibiæ blackish. Length 9 mm.

Very distinct by the colour. Head subtriangular, eyes large, temples small, with moderately coarse, rather close, umbilicate punctures all over, except for an impunctate space on the vertex. Thorax distinctly transverse, convex, the sides almost straight, more retracted behind, the posterior angles broadly rounded, in the middle of the base with a short keel, on either side with a small impression, puncturation feebly umbilicate, finer and less close than on the head. Elytra as long as but a little narrower than the thorax, coarsely, rather closely punctured, not rugose. Abdomen finely and closely punctured in front, more sparingly behind. Pubescence grey, thicker on the abdomen.

“Ind. or.”

532. *Pinophilus thoracicus*.

Pinophilus thoracicus Fauv., Rev. d'Ent. xiv, 1895, p. 220.

Short and broad, rather shining, with sparing long brown pubescence ; thorax almost semilunar, transverse, the elytra as long as the thorax, chestnut-brown, the sides strongly rounded ; black, the mouth, first two joints of the antennæ, knees, and margins of the abdominal segments pitchy red ; legs pitchy ; rest of the antennæ and tarsi testaceous. Antennæ rather shorter than the head and thorax, the joints not very elongate and slender. Head strongly transverse, small, sparingly, irregularly, rather strongly punctured, the eyes reaching the dentiform posterior angles. Thorax broad, somewhat broader than the head, the sides strongly rounded with the base convex, at the base broadly and feebly bi-impressed, with a small rather shining keel between, strongly not very closely punctured. Elytra transverse, rather convex, broadly impressed behind the scutellum, rather closely, strongly, and roughly punctured. Abdomen convex, about a third narrower than the elytra, finely and more densely punctured, the 6th segment smooth at the apex. Legs short. Length 8·5 mm.

Sexual differences unknown.

Burma : Carin Cheba ; Carin Asciuii Cheba ; Carin Ghécu, alt. 900 to 1400 metres (*L. Fea*) (ex *Farwel*).

533. *Pinophilus borneensis*.

Pinophilus borneensis Fauv., Rev. d'Ent. xiv, 1895, p. 221.

Black, head and thorax subopaque, the elytra and abdomen more shining, the posterior margin of the 6th segment rufescent, 5th with broad fascia of yellowish pubescence with a few punctiform bare spots. Antennæ and palpi reddish, the last joint of the latter infusate internally. Legs black, the tarsi reddish. Length 12 to 14 mm.

Head strongly transverse, narrower than the thorax, depressed, very superficially impressed on either side near the antennal tubercles, the front truncate, the temples very small, acute, dentiform, the whole surface very closely, moderately coarsely punctured, the punctures umbilicate and more or less elongate, the pubescence very fine, yellowish and sparing. Antennæ slender, moderate, the 3rd joint longer than the 2nd, 4th to 10th gradually decreasing in length, the penultimate scarcely longer than broad, narrowed at their bases. Thorax scarcely longer than broad, convex, the sides evenly rounded, narrower behind, the posterior angles broadly rounded, at the base with a short shining median keel, scarcely impressed on either side ; the puncturation very similar to that of the head, but the punctures not elongate, pubescence very fine, more evident at the margins. Elytra a little shorter and narrower than the thorax, the sides rounded, the sutural region impressed on each side, coarsely, closely, transversely rugosely punctured, the pubescence yellow, more obvious at the base and on the reflexed sides. Abdomen narrower than the elytra, the first four (visible) segments transversely impressed at the base, and there rather coarsely and closely punctured, the rest of the abdomen very finely and closely punctured ; pubescence yellowish and more evident at the sides of the segments, the 5th yet more thickly covered at the base and sides, but with a few bare punctiform spots, the rest of the abdomen with a very fine black pubescence.

♂ : 6th ventral segment with deep and broad triangular excision ; 5th scarcely emarginate.

Burma : Carin Asciuii Cheba, alt. 1200 to 1300 metres (*Fea*). Also in Singapore, Sarawak, Celebes.

534. *Pinophilus nigripes*.

Pinophilus nigripes Cam., Trans. Ent. Soc. Lond. 1914, p. 536.

Very closely allied to *P. borneensis*, and only differs from it in the following respects : the head and thorax are distinctly

more shining and the puncturation coarser and scarcely as close, the elytra are more coarsely, less closely and scarcely rugosely punctured, the abdomen is very similarly punctured at the bases of the segments, but obviously less finely punctured elsewhere than in *borneensis*.

♂ : 6th ventral segment broadly triangularly excised.
Northern India. Also in Perak and Java.

535. *Pinophilus genalis*.

Pinophilus genalis Fauv., Rev. d'Ent. xiv, 1895, p. 219.

Subdepressed, rather shining, ferruginous red, the posterior margins of the abdominal segments lighter. Antennæ, palpi, and legs reddish-yellow. Length 6.5 to 8 mm.

Head rather large, scarcely narrower than the thorax, the temples well developed, the posterior angles obtuse, the front with six punctures, two immediately behind the middle of the anterior border and close together, two larger on each side and further back; disc with four quadrately placed punctures and two others on each side placed obliquely, posteriorly with a few irregular punctures, all umbilicate. Antennæ slender, reaching the posterior angles of the thorax, the joints clavate. Thorax as long as broad, widest in front, the sides very gently rounded and slightly retracted to the rounded posterior angles, scarcely perceptibly bi-impressed and carinate at the base, in front on each side with a smooth space, the rest of the surface with rather fine, umbilicate moderately close punctures. Elytra slightly longer and slightly narrower than the thorax, more strongly and more closely punctured, scarcely rugose. Abdomen closely and moderately finely punctured. Pubescence rather long, yellow, more evident on the abdomen.

Burma : Bharno ; Schwego-myo ; Pegu ; Palon. Dacca. Also in Siam and Cambodge.

536. *Pinophilus brachypterus*.

Pinophilus brachypterus Kr., Arch. Naturg. xxv, 1859, i, p. 161.

Black, shining, legs red; thorax sparingly but not finely punctured, the elytra half as long, closely and strongly punctured. Length 2½ lin.

Of peculiar build, narrow, grey-pubescent. Antennæ twice as long as the head, testaceous, the first two joints stout, infusate, the 3rd about half as long as and narrower than the 2nd, the 4th a little longer than the preceding, the 5th to 10th obviously shorter. Mandibles red, edentate. Head a little narrower than the thorax, shining, sparingly, unevenly, and very finely punctured, on each side with about six punctures,

two against the eyes, one at the base of the antennæ, and three others placed in series. Thorax a little wider than the elytra, more than a half longer than broad, scarcely narrowed towards the base, the sides almost straight, the base and apex truncate, the anterior angles rectangular, the posterior almost rounded, scarcely obtuse, slightly convex, rather deeply, not closely punctured, near the base on each side lightly longitudinally impressed, in the middle with a slightly raised nearly smooth line. Scutellum punctured. Elytra half as long as the thorax, more closely and coarsely punctured, the apex jointly and slightly emarginate. Abdomen elongate, nearly cylindrical, the apex pointed, closely and distinctly punctured and with long yellow pubescence. Legs red, the posterior femora and tibiæ slightly infusate, the anterior femora strongly thickened.

Ceylon. Unique (ex *Kraatz*).

537. *Pinophilus funestus*.

Pinophilus funestus Bernh., D. E. Z. 1902, p. 40.

Very black, subopaque, antennæ and legs red, the head closely, the thorax, elytra, and abdomen very densely punctured, the elytra half as long as the thorax, this quadrate. Length 11 mm. (5 lin.).

Near *P. brachypterus* Kr.; readily recognized by the short elytra, the colour, and the extremely dense puncturation. Deep black, the head moderately shining, the rest almost opaque, with thick greyish-yellow pubescence. Head much narrower than the thorax, very strongly transverse, the eyes prominent, the temples obsolete, coarsely and closely, rather uniformly punctured and also with fine scattered punctures. Thorax much broader than the elytra, as long as broad, the sides almost straight, the angles rounded at their apices, finely and extremely closely punctured, with small, scarcely visible, often interrupted middle line. Elytra very short, half as long as the thorax, more strongly, equally densely, rugosely punctured. Abdomen elongate, the 3rd segment much longer than the 4th and the following; uniformly finely and very densely punctured, scarcely less densely behind.

Ceylon: Bandarawela (ex *Bernhauer*).

538. *Pinophilus beccarii*.

Pinophilus beccarii Fauv., Rev. d'Ent. xiv, 1895, p. 220.

Black, shining, the thorax with distinct bluish-violet, sericeous reflex; elytra red, scutellum pitchy. Antennæ and palpi reddish-yellow. Legs reddish, the anterior femora more or less infusate, the middle and posterior more or less

cyaneous, the corresponding tibiæ often similarly coloured, occasionally the legs in greater part cyaneous, with the knees and tarsi reddish. Length 8.5 to 9 mm.

Very distinct by the coloration. Head transverse, a little narrower than the thorax, the eyes large, the temples dentiform; on each side of the front with two punctures, one before the other, otherwise impunctate; at the base of the antennal tubercle with a large puncture, the disc on each side with a curved row of three moderate punctures, the space between these rather finely and moderately closely punctured, the base extremely finely and sparingly punctured; ground-sculpture distinct, coriaceous. Antennæ slender, reaching the base of the thorax, the joints elongate and clavate. Thorax slightly transverse, the sides rounded for the anterior fourth, then straight and retracted to the rounded posterior angles, scarcely bi-impressed before the base, feebly carinate; the surface with a few moderate, finely umbilicate punctures; the middle area smooth, the basal impressions each with two or three extremely fine ones; ground-sculpture scarcely perceptible, close, more or less transverse. Elytra as long and as broad as the thorax, the sides rounded, broadly impressed along the suture in front, moderately coarsely, rather closely punctured. Abdomen much narrower than the elytra, closely and moderately coarsely punctured, more finely and more sparingly behind; the whole insect has a fine greyish pubescence, much more evident on the elytra and abdomen.

Burma: Carin Cheba, alt. 900 to 1100 metres (*L. Fea*). Also in Penang, Sumatra, Java, and Borneo.

539. *Pinophilus melanomerus*.

Pinophilus melanomerus Kr.*, Arch. Naturg. xxv, 1895, i, p. 160.

Black, shining, antennæ and legs reddish-testaceous, the femora more or less pitchy. Length 6 mm.

Very similar to *P. orientalis* Cam., and only differing from it in the less closely punctured thorax with a small smooth shining space on each side in front, much more coarsely punctured elytra and pitchy femora. Head subtriangular, the eyes large, the temples minute, moderately finely, closely punctured, the whole front from the level of the antennal tubercles impunctate. Antennæ slender, reaching the base of the thorax, the penultimate joints clavate. Thorax a little broader than long, convex, the sides almost straight, retracted behind, the posterior angles rounded, in the middle before the base with a small shining keel, on each side of it with a little impression, puncturation coarser and a little closer than in the head, a little behind the anterior margin on each side with a small impunctate space. Elytra as long as but a little narrower

than the thorax, coarsely and closely punctured. Abdomen closely and rather coarsely punctured. The whole insect covered with a fine greyish pubescence, thicker on the abdomen.

According to Kraatz the male has the 7th [6th] ventral segment slightly emarginate.

Dehra Dun. Also in Java.

540. *Pinophilus rotundicollis*.

Pinophilus rotundicollis Kr.*, Arch. Naturg. xxv, 1859, i, p. 160.

Very similar to *P. melanomerus* and only differing in the following respects: a little longer and more slender, the head less closely punctured, the thorax almost semicircular, the sides and base being coarctate, more finely punctured and without smooth spaces, elytra much less coarsely punctured. Length 6.75 mm.

♂: 6th ventral segment with small triangular excision.

"Ind. or."

541. *Pinophilus ceylonicus*, sp. n.

Very shining, black, subconvex. Head and thorax sparingly punctured. Antennæ short, reddish-yellow. Legs brown, the tarsi reddish. Length 12 mm.

Very distinct by the subconvex build, short antennæ, etc. Head a little narrower than the thorax, temples very small, the posterior angles dentiform, the surface with a few scattered umbilicate punctures, the front completely impunctate. Antennæ short, the penultimate joints slightly transverse. Thorax a little broader than long, the sides very slightly rounded, equally retracted in front and behind, the anterior angles a little produced and rounded, the posterior distinct, obtuse, the punctures umbilicate, irregularly distributed and sparing, along the middle with broad impunctate area. Elytra a little longer and a little narrower than the thorax, coarsely and closely punctured. Abdomen closely and rather finely punctured. The whole insect covered with a long yellowish pubescence.

Ceylon (without further indication). In the British Museum.

542. *Pinophilus bomfordi*.

Pinophilus bomfordi Epp., W. E. Z. ix, 1890, p. 279.

Black, moderately shining, subconvex, the posterior margins of the abdominal segments obscurely ferruginous. Antennæ and palpi reddish-yellow, the former short, the penultimate joints slightly transverse. Legs reddish-brown. Length 10 mm.

Of the size, build, and with the antennal structure of *P. ceylonicus* Cam., but much less shining and with the head and thorax densely and uniformly punctured all over without smooth spaces, the punctures finely umbilicate; the elytra are less coarsely punctured than in *ceylonicus*, the puncturation of the abdomen is finer but equally close.

Belgaum. Dehra Dun. Siwaliks.

543. *Pinophilus pilicollis*.

Pinophilus pilicollis Motsch., Bull. Mosc. xxx, 1857, iv, p. 516.

Black, shining, the abdomen slightly iridescent, the posterior borders of the elytra and abdominal segments ferruginous. Antennæ short, testaceous. Legs pitchy. Length 9 mm.

Head subtriangular, the eyes large, the temples minute, the puncturation coarse, umbilicate, and rather close, a triangular space on the front smooth, except for a row of punctures along the anterior border. Antennæ short, the penultimate joints very short, obconical. Thorax slightly transverse, convex, the sides gently rounded, the posterior angles obtuse, in the middle along the posterior half with a fine keel, the puncturation as on the head. Elytra at the suture slightly longer than the thorax, closely and more coarsely punctured. Abdomen with close sculpture, somewhat resembling the impressions of finger tips. Pubescence yellowish, rather long.

"Ind. or." Also in Siam.

Genus *PROCIRRUS* Latr.

Procirrus Latr., Regne Anim. iv, 1829, p. 436; Cast., Etud. Ent. i, 1835, p. 123; Er., Gen. Spec. Staph. 1839-40, p. 685; Lacord., Gen. Col. ii, 1854, p. 125; Kraatz, Naturg. Ins. Deutsch. ii, 1856-58, p. 667.

Narrow, elongate species. Head oval, narrower behind, exserted, neck narrow. Antennæ slender, filiform. Labrum short, broad, sinuate in front. Mandibles long and slender, curved, pointed, in the middle with a large bicuspid tooth. Lobes of the maxilla short and broad, the inner densely ciliated internally, the outer densely ciliated at the apical margin. Maxillary palpi elongate, the 1st joint small, obconical, the two following equal in length and slightly thickened apically, the 4th as long as the 3rd, fusiform, pointed, the outer surface flattened. Mentum transverse, trapezoidal. Tongue broad, the apical border slightly emarginate. Labial palpi short, 3-jointed, the 1st and 2nd joints cylindrical, the 2nd a little longer than the 1st, the 3rd narrower, shorter, oval. Gular sutures fused behind, submentum long, narrow, triangular. Prosternum short, its process pointed. Epimera long and narrow, a little broader behind, fused with the pronotal epipleura, these not separated by suture from the pronotum; stigma

exposed. Mesosternum narrowed to a neck in front, its process short and pointed, the middle coxæ contiguous. Metasternum long, its process short, emarginate before the posterior coxæ, truncate behind in the middle. Anterior coxæ very long, as long as the femora, contiguous; middle coxæ conical, scarcely prominent, the posterior subcylindrical. Anterior femora thickened, tibiæ ciliate, the posterior emarginate externally at the apex, the emargination more densely ciliate. Tarsi 5-jointed, the anterior with the first four joints dilated, quadrate, not forming a patella; middle with the 1st joint as long as the four following together, these short, the 4th with a lobe below; posterior with the 1st joint very long, longer than the following together, 2nd triangular, 3rd and 4th very short, the latter lobed below. Abdomen not bordered above, keeled below at the middle of the base, the apex with two spines.

Only two species are known from India. The habits are obscure, but I have taken one of them amongst damp leaves.

544. *Procirrus feæ*.

Procirrus feæ Fauv.*, Rev. d'Ent. xiv, 1895, p. 215.

Narrow, elongate, subconvex, opaque, smoky brown. Antennæ, palpi, and legs reddish-yellow. Length 9 to 10 mm.

Head a little wider than the thorax, oval, narrower behind, eyes moderate, the puncturation close, moderately fine and umbilicate. Antennæ long and slender, the 1st joint stouter and a little longer than the 2nd, the 3rd to 10th all longer than broad, gradually decreasing in length, the 11th longer than the 10th. Thorax much longer than broad, cylindrical, a little narrowed behind, along the middle for the posterior half with an opaque keel, the puncturation close, umbilicate, and rugose. Elytra a little shorter and a little broader than the thorax, more coarsely and more rugosely punctured. Abdomen longer than the fore-parts, the first three segments densely, moderately finely but roughly punctured, the following gradually more finely, less roughly and more sparingly. According to Fauvel the male has the 7th ventral segment broadly, rather deeply, triangularly excised; 6th rather deeply impressed along the middle, the impression with long hairs on each side but scarcely carinate, the apex a little emarginate, with a smooth space in front.

Burma: Rangoon. United Provinces: Dehra Dun.

545. *Procirrus fuscus*.

Procirrus fuscus Shp.*, Ann. Mag. Nat. Hist. (6) iii, 1889, p. 324.

Very near *P. feæ*, but differing in the following respects: the antennæ are a little stouter but similarly constructed,

the thorax a little shorter, less emarginate behind the middle, but a little more retracted behind, the elytra are broader and more ample in relation to the thorax, and are blackish in colour, the puncturation of the thorax, elytra and abdomen is less rough; the apex of the femora and the middle posterior tibiæ are infusate. Length 8.5 mm.

Dacca. A single specimen in the British Museum.

Genus **PALAMINUS** Er.

Palaminus Er., Gen. Spec. Staph. 1839-40, p. 681; Lacord., Gen. Col. ii, 1854, p. 104; Sharp, Trans. Ent. Soc. Lond. 1876, p. 340; Fauv., Ann. Mus. Civ. Gen. xii, 1878, p. 225; Lynch, Bol. Ac. Cordoba, vii, 1884, p. 327; Sharp, B. C.-A. i, 2, 1882-87 (1886), p. 631; Fauv., Rev. d'Ent. x, 1891, p. 95; Casey, Mem. Col. i, 1910, p. 197.

Narrow elongate species with coarse yellow scanty pubescence and imbricate abdominal sculpture. Head subtriangular, exserted, truncate at the base, eyes large, temples minute, neck moderate. Gular sutures separate, parallel in the middle, diverging in front and behind. Antennæ filiform, 11-jointed, the first two joints stouter than the following. Labrum short, transverse, in the middle with a small emargination with a little tooth on each side. Mandibles falciform, in the middle each with a strong acute tooth. Inner lobe of the maxilla narrow, with long cilia internally; outer short, truncate at apex, which is furnished with shorter and finer cilia. Maxillary palpi moderate, the 1st joint very small, 2nd elongate, slightly thickened towards the apex, 3rd shorter, obconical, 4th large, securiform, the outer margin flattened. Mentum transverse, trapezoidal. Tongue broad, membranous, deeply broadly emarginate, the lobes ciliate internally. Paraglossæ distinct, scarcely extending beyond the tongue. Labial palpi 3-jointed, the 1st joint short and stout, scarcely as long as broad, the 2nd longer, oval, 3rd small, almost subulate, nearly as long as the preceding. Thorax more or less subcordate. Prosternum large and broad, broadly fused with the large subtriangular epimera behind the coxal cavities, these entirely closed behind, medially carinate except in front; epipleura not distinct from the epimera; anterior coxal cavities small, round, the trochantin visible. Stigma exposed. Mesosternum narrowed to a neck in front, its process short, carinate. Metasternum truncate in the middle behind, broadly emarginate before the posterior coxæ and without definite process in front in the middle. Anterior coxæ elongate, contiguous; middle rounded, contiguous; posterior conical. Anterior femora stout. Tibiæ ciliate, the anterior stout, the posterior obliquely emarginate externally before the apex, the emargination

more densely ciliate. Tarsi all 5-jointed, the anterior with the first three joints lobed below, much dilated and together forming a patella; 4th small, 5th slender, claws fine, curved: the middle with the 1st joint about as long as the 2nd and 3rd together, these short, 4th short and lobed below; posterior with the 1st joint elongate, about as long as the three following together, these short, 4th lobed below. Scutellum visible. Elytra conjointly emarginate. Abdomen not bordered above at the sides, the sculpture imbricate; 1st ventral segment keeled below in the middle; anal styles exerted.

The genus is readily recognized by the abdominal sculpture. The species present much difficulty in determination; they are found throughout the warmer regions on bushes, trees, and amongst fallen leaves.

Key to the Species.

- | | |
|---|--------------------------------------|
| 1. Black or pitchy-black species. | 2. |
| Reddish, reddish-yellow, or yellow species,
the abdomen brown. | 4. |
| 2. Larger (4.5 to 6 mm.) | 3. |
| Smaller (3.5 mm.). Temples not dentiform. | <i>nigropiceus</i> , sp. n., p. 22. |
| 3. Elytra uniformly pitchy-black. Temples
not dentiform, rounded. | <i>morosus</i> Cam., p. 22. |
| Elytra with the suture (except at base) and
the posterior margin reddish. Temples
dentiform. | <i>truncatus</i> Fauv., p. 22. |
| 4. Ferruginous or reddish-brown species.
Temples dentiform. | 5. |
| Yellow or reddish-yellow species, only the
abdomen brown | 6. |
| 5. Larger (5 mm.) and more robust, ferru-
ginous red | <i>rufus</i> , sp. n., p. 23. |
| Smaller (3½ mm.) and narrower, reddish-
brown | <i>nilgiriensis</i> , sp. n., p. 23. |
| 6. Elytra distinctly longer than the thorax. . | 7. |
| Elytra scarcely longer than the thorax. . | <i>simoni</i> Fauv., p. 25. |
| 7. Thorax strongly transverse (4½:3), the
sides rounded from the base to apex.
Temples dentiform. | <i>ceylanensis</i> Kr., p. 24. |
| Thorax less transverse, the sides straighter,
subcordate | 8. |
| 8. Larger (4 to 5 mm.) | 9. |
| Smaller (3 mm.). Elytra twice as long as
the thorax | <i>monticola</i> , sp. n., p. 24. |
| 9. Larger (5 mm.) and broader. Elytra twice
as long as thorax. | 10. |
| Smaller (4 mm.) and narrower. Elytra 1½
times as long as thorax | <i>andrewesi</i> , sp. n., p. 24. |
| 10. More robust; thorax distinctly transverse,
the sides more rounded, more closely
punctured | <i>birmanus</i> , sp. n., p. 23. |
| Narrower; thorax slightly transverse,
the sides straighter, more sparingly
punctured | <i>indicus</i> Kr., p. 24. |

546. *Palaminus morosus*.

Palaminus morosus Cam., Trans. Ent. Soc. Lond. 1924, p. 179.

Entirely black, shining; elytra nearly twice as long as the thorax; antennæ, palpi, and legs testaceous, the knees slightly infusate. Length 5.5 to 6 mm.

Head nearly as broad as the thorax, the base very slightly curved and very slightly oblique to the neck, the posterior angles not dentiform, puncturation coarse and close, the front impunctate. Antennæ moderate, slender, all the joints longer than broad and gradually decreasing in length, the 11th longer and stouter than the 10th, more or less infusate from 3rd to 10th. Thorax transverse ($5\frac{1}{2} : 4$), the sides rounded, before the base with a smooth shining keel with a fovea on either side, sculpture as on head. Elytra more closely and somewhat rugosely punctured. Abdomen with the usual imbricate sculpture and long yellow pubescence.

♂: 6th ventral segment rounded in the middle (but not produced) and crescentically emarginate on either side, in front of the emargination broadly, longitudinally sulcate, on each side with a stout tooth.

♀: 6th ventral segment with a small obtuse emargination.

The male character given in the original description is incorrect and applies to the female.

N. India: Chakrata District; Sainj Khud, Binal Gad, alt. 6500 feet.

547. *Palaminus nigropiceus*, sp. n.

Differs from *P. morosus* Cam. in the smaller size (3.25 mm.) and pitchy-black colour. The head is as broad as the thorax, this less transverse (4 : 3) with less rounded sides, more trapezoidal. Elytra twice as long as the thorax. The sculpture and antennal structure scarcely different.

In the specimens before me the 6th ventral segment is simply rounded.

Nilgiri Hills (*Andrewes*).

548. *Palaminus truncatus*.

Palaminus truncatus Fauv., Rev. d'Ent. xxii, 1903, p. 152.

Pitchy, shining, with sparing long yellow hairs, antennæ obscurely testaceous, legs yellow, the suture of the elytra (except at the base) and apical margin reddish. Antennæ slender, the 5th to 10th joints one-third longer than broad, 11th much broader, ovate-acuminate. Head short, convex, the disc strongly, not very closely, punctured, the base straight, the eyes extending to the rectangular posterior angles. Thorax as broad as the head, rather transverse, the sides moderately

rounded, more narrowed towards the base than in front, all the angles obtuse, the disc bi-impressed from the middle to the base, more finely punctured than the head. Elytra twice as long as and much broader than the thorax, rather closely and deeply, subasperately punctured. Abdomen deeply reticulate-punctate. Length 4·5 to 5 mm.

Coonor, alt. 1200 metres (ex *Fauvel*).

549. *Palaminus rufus*, sp. n.

Shining ferruginous red, the elytra with the sutural region behind and the apical margin often lighter. Abdomen brown. Antennæ, palpi, and legs yellow. Length 5 mm.

Differs from *P. morosus* Cam. in the colour, stouter build, dentiform posterior angles of the head, less transverse thorax, and more coarsely punctured elytra. Would appear to be very near *P. truncatus* Fauv., but to differ in the brighter colour and the entirely testaceous antennæ, the joints of which would appear to be much longer than in *truncatus*. Head as broad as the thorax, the base truncate, the posterior angles dentiform, the disc with a few rather large umbilicate punctures. Antennæ reaching the base of the thorax, the intermediate joints much longer than broad, gradually decreasing in length, the 11th longer than the 10th. Thorax transverse (6:5), subcordate, bi-impressed and carinate before the base, the puncturation similar to but closer than that of the head. Elytra nearly twice as long as the thorax, rather coarsely, closely punctured.

♂: 6th ventral segment broadly rounded behind.

♀: 6th ventral segment with acute emargination, the apex of which is rounded.

Nilgiri Hills (*Andrewes*).

550. *Palaminus birmanus*, sp. n.

Shining reddish-testaceous, the elytra paler, the abdomen brown. Antennæ, palpi, and legs pale yellow. Length 5 mm.

Size and build of *P. rufus*, colour of *P. indicus*, the thorax more punctured than either, the elytra distinctly more finely punctured than in the first, rather more closely than in the latter.

In the single specimen before me the 6th ventral segment is deeply emarginate on each side, the central portion forming a tongue-shaped lobe with rounded apex.

Burma: Ruby Mines. British Museum Collection.

551. *Palaminus nilgiriensis*, sp. n.

Differs from *P. rufus* in the smaller size (3·5 mm.) and narrower build, more transverse thorax (4:3), which is less

coarsely punctured, and in the finer puncturation of the elytra which are twice as long as the thorax.

♂: 6th ventral segment narrowed, the posterior margin with three small teeth, one median and one on each side, the border between crescentically emarginate.

♀: 6th ventral segment with a small emargination.

Nilgiri Hills (*Andrewes*).

552. *Palaminus indicus*. (Plate I. fig. 2.)

Palaminus indicus Kr.*, Arch. Naturg. xxv, 1859, i, p. 153.

Shining; testaceous, the abdomen brown. Antennæ, palpi, and legs yellow. Length 5 mm.

Head a little broader than the thorax, rather strongly and closely punctured. Antennæ slender, reaching the base of the thorax. Thorax slightly transverse ($4\frac{1}{2} : 4$), subcordate, carinate and bi-impressed before the base, the puncturation as on the head. Elytra about twice as long as the thorax, more closely but less coarsely punctured.

♂: 6th ventral segment produced into a plate with rounded apex.

Nilgiri Hills (*Andrewes*).

553. *Palaminus andrewesi*, sp. n.

Differs from *P. indicus* Kr. in the smaller size (4 mm.) and narrower build and the obviously more finely punctured elytra.

♂: 6th ventral segment produced, narrowed and rounded at the apex.

♀: 6th ventral segment broadly truncate.

Nilgiri Hills (*Andrewes*).

554. *Palaminus monticola*, sp. n.

Differs from *P. andrewesi* in the smaller size (3 mm.) and narrower build, paler colour and rather less closely punctured elytra.

♂: 6th ventral segment broadly rounded.

♀: 6th ventral segment broadly truncate.

Ceylon: Kandy.

555. *Palaminus ceylanensis*.

Palaminus ceylanensis Kr.*, Arch. Naturg. xxv, 1859, i, p. 153.

Colour of *P. indicus*, but at once distinguished by the more strongly transverse ($4\frac{1}{2} : 3$) non-cordate thorax. The head is scarcely as broad as the thorax, the elytra twice as long, closely and rather strongly punctured. Length 4 mm.

In the single example in my collection the 6th ventral segment is a little produced and broadly and slightly rounded at the apex (? ♂).

Ceylon.

556. *Palaminus simoni*.

Palaminus simoni Fauv., Rev. d'Ent. xxiii, 1904, p. 50.

Testaceous, shining, the abdomen brown; elytra scarcely longer than the thorax. Antennæ, palpi, and legs testaceous. Length 3.5 mm.

At once distinguished from all the preceding species by the short elytra, which are scarcely longer than the thorax. Head as broad as the thorax with the usual puncturation. Antennæ slender, reaching the base of the thorax, this transverse (4:3), subcordate, along the middle with smooth raised line except in front. Elytra scarcely longer than the thorax, a little widened behind, about as strongly but more closely punctured.

The 6th ventral segment is simply rounded behind in the specimens I have examined.

Ceylon: Nuwara Eliya; Madurata; Hakgala; Dikoya; Bogawantalawa. S. India: Nilgiri Hills (*Andrewes*).

The examples from the latter region are a little narrower in build with rather more finely punctured elytra, and may possibly represent a distinct species.

Genus **ÆDICHIRUS** Er.

Ædichirus Er., Gen. Spec. Stenb., 1839-40, p. 684; Lacord., Gen. Col. ii, 1854, p. 104; *Ædichirus* Ins. Deutsch. ii, 1856-58, p. 666; Sharp, Trans. Ent. Soc. Lond. l. 1876, p. 338.
Elytrobacis Sahlb., Act. Soc. Fenn. ii, 2, 1847, p. 801.

Elongate vermiform species. Head exserted, constricted behind, the neck thick. Gular sutures obsolete. Antennæ slender, filiform, 11-jointed, the apex of the last joint with a spine. Labrum short and broad, the front margin with four teeth. Mandibles falciform, each with a pointed tooth about the middle. Mentum short, broad, the sides converging in front, trapezoidal. Labium subcordate, in front with two setæ. Labial palpi 3-jointed, the 1st joint very short, broader than long, the 2nd narrower, elongate, cylindrical, the 3rd as long and as broad as the 2nd, the apex rounded. Tongue completely bilobed, the lobes bluntly pointed, densely ciliate. Paraglossæ well developed, not extending beyond the apex of the tongue, strongly papillose. Lobes of maxilla short and broad, densely ciliate. Maxillary palpi long, 4-jointed, the 1st joint rather small, narrowed at the base and widened towards apex, 2nd elongate, slightly thickened apically, 3rd

a good deal shorter than the 2nd, narrowed at the base and dilated towards the apex, 4th longer than the 3rd, securiform, the apical surface obliquely truncate. Prosternum large, well developed behind the coxal cavities, sharply keeled in the middle, truncate behind. Epimera fused with the pronotal epipleura without suture, only separated internally from the prosternum behind the coxal cavities by a narrow notch. Stigma exposed. Mesosternum large, not forming a neck in front, its process very short, the coxæ contiguous. Metasternum without process, emarginate before the posterior coxæ, truncate between. Legs slender. Anterior coxæ elongate, exserted; middle contiguous, posterior conical. Tibiæ setose, the posterior obliquely truncate at the apex externally. Tarsi 5-jointed, the anterior with the first four joints separately and strongly dilated, not forming a plate as in *Pinophilus* and *Palaminus*, each below furnished with a membranous lobe, 5th joint small, oval, claws simple; the intermediate with the 1st joint elongate, as long as the three following together, these short, triangular, the 4th lobed below; the posterior with the 1st joint longer than all the following together, 2nd to 4th very short, the latter lobed below. Scutellum visible. Abdomen with the 1st segment above finely margined, keeled below in the middle; apex with two strong spines.

The species are found in trees and amongst fallen leaves. They are widely distributed.

Key to the Species.

- | | |
|---|-------------------------------|
| 1. Head black | 7. |
| Head red | 2. |
| 2. Head black | 3. |
| Head red | 4. |
| 3. Elytra entirely black; last two abdominal segments black | [p. 26. |
| Elytra black, the posterior margin broadly red; last three abdominal segments black | <i>longipennis</i> Kr., |
| 4. Elytra bicolorous | <i>alatus</i> Niet., p. 27. |
| Elytra unicolorous | <i>dimidiatus</i> Epp., |
| 5. 7th and 8th abdominal segments black | 5. [p. 27. |
| 7th segment not pitchy | 6. |
| 6. 7th segment not pitchy | <i>birmanus</i> Fauv., p. 28. |
| species, the 1st (visible) abdominal segment black | <i>ruficeps</i> Kr., p. 24. |
| Reddish-testaceous species, the 1st abdominal segment concolorous | [p. 29. |
| 7. Larger (9.5 mm.). Elytra nearly as long as the thorax | <i>rufotestaceus</i> Bernh., |
| Smaller (5.5 mm.). Elytra half as long as the thorax | <i>niger</i> Cam., p. 30. |
| | <i>minor</i> Cam., p. 30. |

557. *Ædichirus longipennis*.

Ædichirus longipennis Kr., Arch. Naturg. xxv, 1859, i, p. 154.

Shining; head, elytra, and last two abdominal segments black; thorax, scutellum, and rest of the abdomen red. Antennæ, palpi, and legs yellow, the intermediate joints of the

former scarcely infusate, the apex of the femora and base of the tibiæ blackish. Length 6 mm.

Head transverse, as broad as the thorax, the eyes large and prominent, occupying the whole side of the head, between the eyes with several large punctures. Antennæ extending to the base of the thorax, the penultimate joints a little longer than broad, the 11th a little shorter than the 10th. Thorax distinctly longer than broad, widest in front, narrowed behind, the anterior angles rounded; disc with dorsal row of seven punctures on each side, the posterior five more closely placed together than the two anterior ones, externally at the widest part with two other large punctures and at the lateral margin with two small ones; pubescence long, greyish, sparing, erect. Elytra distinctly longer and broader than the thorax, the sides rounded, strongly but not closely punctured, with long semi-erect greyish pubescence. Abdomen with the first four visible segments each with four transverse rows of close, moderately coarse punctures, the last two with three rows of much finer ones; pubescence yellowish, long, semi-erect. Anal styles stout, black.

Nilgiri Hills and Northern India.

558. *Ædichirus alatus*.

Ædichirus alatus Niet., Ann. Mag. Nat. Hist. (2) xix, 1857, p. 247;
Kraatz, Arch. Naturg. xxv, 1859, i, p. 154.

Shining; head and last three segments of the abdomen black, elytra black, the posterior border broadly arcuately red, the first three visible abdominal segments and thorax red. Antennæ infusate, the apex testaceous; palpi infusate. Legs yellow, the apex of the femora and base of the tibiæ blackish. Length 6.3 mm.

Readily recognized by the coloration.

Ceylon.

559. *Ædichirus dimidiatus*. (Plate I. fig. 3.)

Ædichirus dimidiatus Epp., W. E. Z. ix, 1890, p. 280.

Ædichirus elegans Cam., Trans. Ent. Soc. Lond. 1924, p. 180.

Shining red, the elytra (except the posterior border) and the last three abdominal segments black; antennæ testaceous, the 3rd to 5th joints infusate; legs testaceous, the apex of the anterior and intermediate and the distal half of the posterior femora black. Length 8 mm.

Head (with eyes) a little broader than the thorax, transversely suborbicular, the disc with seven or eight punctures more or less arranged in a circle, behind the eyes and before the base with a few minute punctures, setose. Antennæ slender, all the joints longer than broad, gradually decreasing in length from the 4th to the 8th; palpi testaceous, the last two joints infusate. Thorax longer than broad, widest in

front and narrowed behind, the disc on either side with a row of seven punctures, of which the anterior two pairs are smaller and nearer each other and the middle line than the posterior series; the sides each with three larger punctures, setose. Elytra broader than and about as long as the thorax, the sides rounded, the apical margin broadly red, coarsely and not closely punctured, posteriorly impunctate, setose. Abdomen with the individual segments closely triserially punctured, strongly setose.

(?) ♂: Sixth ventral segment semicircularly emarginate.

Mussoorie District; Arni Gad. Nilgiri Hills, Nagpur.

560. *Ædichirus birmanus*.

Ædichirus birmanus Fauv., Rev. d'Ent. xiv, 1895, p. 217.

Apterous, rather shining, ferruginous red, with sparing yellow pubescence, head between the eyes and bases of the abdominal segments scarcely infusate, the 7th segment pitchy, antennæ, palpi, and legs reddish-testaceous. Head transverse, sparingly and coarsely punctured, with a smooth space on the vertex, the posterior angles very finely dentiform and with a seta; eyes not very prominent. Antennæ as long as the head and thorax, the apex of the 11th joint acute. Thorax subovate, as wide as the head, longer than broad, narrowed from the anterior third to the base, on each side with three rows of coarse punctures, the punctures in the two outer rows larger, the inner row extending from the middle to the apex, the 2nd row in a curved sulcus reaching nearly to the base, external to the rows with a few large punctures. Elytra one-third shorter than the thorax, narrower at the base, the sides rounded, the apex conjointly, arcuately emarginate, disc flattened, not very closely, strongly, obliquely subasperately punctured. Abdomen scarcely wider before the apex, the 2nd to 5th segments closely and strongly punctured, the punctures scarcely in rows, 6th and 7th sparingly and finely punctured. Length 7.5 to 8.3 mm.

Burma: Carin Asciuii Ghécu, alt. 1400 to 1500 metres (*Fauv.*).

Distinguished by the colour and the abdominal puncturation from all the described species; it is near *O. intricatus* Fauv. from Australia, which has the thorax similarly punctured, but the puncturation of the abdomen very different (ex *Fauvel*).

561. *Ædichirus ruficeps*.

Ædichirus ruficeps Kr.*, Arch. Naturg. xxv, 1859, i, p. 155.

Shining reddish-brown, the 1st (visible) and last two abdominal segments black. Antennæ and legs testaceous. Length 7 mm.

A narrow slender species distinguished by the colour and the very short elytra, which are much dilated behind. Head a little wider than the thorax, transverse, on the disc

with a few large punctures. Thorax longer than broad, rounded and widened in front, strongly narrowed behind, on either side of the middle with a curved row of six large, close punctures, between the first of these and the anterior margin with a group of four or five smaller ones, at the sides with four large and two or three smaller punctures. Elytra half as long as the thorax, narrowed at the base and strongly widened and rounded behind, with four rows each of about five large punctures, the two inner rows (1st and 2nd) close together, the marginal row (4th) more widely separate from the 3rd than this is from the 2nd. Abdomen with the base of the 2nd to 5th (visible) segments with numerous closely placed little keels and with four rows of punctures, except in the 5th and 6th segments, where there are only three, and these much finer.

Ind. or. (without further indication).

562. *Ædichirus rufotestaceus*.

Ædichirus rufotestaceus Bernh., D. E. Z. 1902, p. 39.

Reddish-testaceous, the 7th and 8th segments of the abdomen black, antennæ, mouth, and legs testaceous; head narrower than the thorax; elytra with three diverging rows of punctures, their ends equidistant from each other. Length 7 mm. ($3\frac{2}{3}$ lin.).

Build of *O. ruficeps* Kr., but differing in the reddish-yellow colour of the 3rd (1st visible) segment of the abdomen and also as follows:—The head is slightly but distinctly narrower than the thorax, whereas in *ruficeps* it is always broader. The thorax is broader in the anterior fourth, and so appears shorter; the puncturation is fine and without the two large punctures which in *ruficeps* lie more or less parallel to the dorsal row, but in their place is found a row of moderately coarse, closely placed punctures which behind are near the dorsal row and in front are at first strongly curved away from it and then suddenly bend inwards towards the middle; externally there are again a number of moderately large punctures. The three rows of punctures on the elytra beginning near the scutellum and diverging behind are almost equally distant from each other; this is especially noticeable in the last puncture of the series, whereas in *ruficeps* the two inner rows are very near one another, so that the two last punctures of these rows are only about half as far apart from each other as the corresponding ones of the middle and outer rows. The sculpture of the abdomen is different: in *ruficeps*, besides the transverse row of little keels at the base of the 2nd and 3rd (visible) segments, there are four transverse rows of deep punctures, while in *rufotestaceus* there are only three.

Ceylon: Nalanda. Unique (ex Bernhauer).

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563. *Ædichirus niger*.

Ædichirus niger Cam., Trans. Ent. Soc. Lond. 1914, p. 536.

Apterous, entirely black or pitchy, rather shining. Antennæ, palpi, and legs pale testaceous, the knees slightly infuscate; pubescence long, yellow. Length 9.5 mm.

From the description this must be very near *O. birmanus* Fauv., but differs in the entirely dark colour and the pale testaceous antennæ and legs, puncturation of the thorax, etc.

Head transversely suborbicular, a little wider than the thorax, sparingly and coarsely punctured, vertex more or less impunctate, pubescence long, yellow, and sparing; posterior angles with a minute tooth. Antennæ slender, 2nd joint shorter than 1st and 3rd, the following much longer than broad, 4th to 7th of equal length, 8th to 11th gradually shorter. Thorax longer than broad, rounded in front, narrowed in a straight line to the base; more or less impressed on either side of the middle line, very coarsely, closely, and irregularly punctured. Elytra a little shorter than the thorax, narrowed at the base and widened behind, disc depressed, coarsely and rather closely punctured. Abdomen with the first four visible segments coarsely, rather closely, and irregularly punctured, the two last almost smooth. Anal styles black.

♂: 6th ventral segment with a broad and deep triangular excision of the posterior margin.

♀: 6th ventral segment truncate.

Note. Immature specimens are reddish-brown.

S. India: Nilgiri Hills (*H. L. Andrewes*).

564. *Ædichirus minor*.

Ædichirus minor Cam., Trans. Ent. Soc. Lond. 1914, p. 537.

Black, shining; thorax with three rows of punctures on each side. Elytra half the length of the thorax. Abdominal segments (except the last) each with three transverse rows of large punctures. Antennæ, palpi, and legs testaceous. Length 5.5 mm.

Head transverse, a little narrower than the thorax, temples denticulate, vertex impunctate, the front with a few large setiferous punctures. Antennæ moderate, all the joints longer than broad, 2nd shorter than 1st, about as long as 3rd, 4th to 10th gradually decreasing in length, narrowed at the bases, 11th truncate. Thorax scarcely longer than broad, rounded and widened in front, strongly contracted to the base, furnished with three rows of large setiferous punctures on either side of the middle line, the median of six or seven, the intermediate of two very large ones, the external of three much smaller, placed at the side-margin two anteriorly and one posteriorly. Elytra at the base as wide as the base of the

thorax and (measured along the suture) half its length, strongly dilated and rounded at the sides, the greatest width just behind the middle, strongly emarginate posteriorly, with large, scanty, setiferous punctures. Abdomen with first five visible segments each with three transverse rows of large setiferous punctures, the last almost impunctate. Anal styles testaceous.

Ceylon : Bogawantalawa, alt. 5000 feet. British Museum Collection.

Tribe 2. PÆDERINI.

This tribe is distinguished by the small and inconspicuous 4th joint of the maxillary palpi, which may be wart-like and closely applied to the 3rd joint, or subulate. In two of our genera (*Cephalochætus* and *Cryptobium*) the antennæ are strongly geniculate, in the rest filiform.

Key to the Genera.

- | | | |
|---|-----|----------------------------|
| 1. Antennæ strongly geniculate | 28. | |
| Antennæ not geniculate | 2. | |
| 2. Fourth tarsal joint bilobed (see also 25. <i>Acanthoglossa</i>) | 3. | |
| Fourth tarsal joint simple | 8. | |
| 3. Fourth joint of maxillary palpi short, broad, and wart-like | | PÆDERUS Fab., p. 33. |
| Fourth joint of maxillary palpi very slender, subulate | 4. | |
| 4. Labrum bidentate in the middle | 6. | |
| Labrum with five or six small teeth | 5. | [p. 100. |
| 5. Labrum bilobed | | STILIDERUS Motsch., |
| Labrum emarginate in the middle, the fundus with a tooth. Temples strongly bordered below | | [p. 114. |
| 6. Labrum emarginate in the middle, the fundus with two small teeth. Head oblong | | PSILOTRACHELUS Kr., |
| Labrum produced in the middle | | ASTENUS Steph., p. 64. |
| 7. The produced part of the labrum with two long teeth | | 7. |
| The produced part of the labrum with two short teeth | | [p. 63. |
| 8. First two joints of antennæ very stout, the following very slender | | DIBELONETES Sahlb., |
| Antennæ normal | | STILICOPSIS Sachse, p. 91. |
| 9. Neck very slender | 10. | |
| Neck at least a fourth as broad as the base of the head. | 13. | |
| 10. Sculpture scabrous; labrum slightly emarginate in the middle | | THINOCHARIS Kr., p. 117. |
| Sculpture not scabrous; labrum dentate. | 11. | |
| 11. Labrum 4-dentate; tongue corneous, trifid | | SCLEROCHITON Kr., p. 99. |
| Labrum 2- or 3-dentate; tongue membranous, bilobed | | 11. |
| 12. Labrum 3-dentate | | SCOPÆUS Er., p. 169. |
| Labrum 2-dentate | 12. | [p. 110. |
| | | STILICODERUS Shp., |
| | | STILICUS Latr., p. 101. |

13. Eyes very large, temples scarcely indicated. Labrum feebly emarginate in front, edentate [p. 123.
Eyes normal, temples well developed .. LOBOCHILUS Bernh.,
14.
14. Last joint of maxillary palpi wart-shaped, short and broad. Neck very broad ... DOLICAON Lap., p. 216.
Last joint of maxillary palpi slender, subulate 15.
15. Last joint of the posterior tarsi as long as the four preceding together ACHENTIUM Curt., p. 215.
Last joint of the posterior tarsi shorter than the three preceding together 16.
16. 1st joint of the posterior tarsi not longer than the 2nd. 17.
1st joint of the posterior tarsi longer than the 2nd. 20.
17. Thorax densely, longitudinally striate; tongue trifid MEDOME, gen. n., p. 188.
Thorax normally punctured; tongue bilobed 18.
18. Labrum on each side of the median emargination with a prominent tooth. [p. 190.
Labrum without such tooth. ENNALAGIUM Bernh.,
19.
19. Thorax oblong; tongue membranous .. LATEROBIUM Gr., p. 196.
Thorax oval; tongue corneous DOMENE Fauv., p. 194.
20. Labrum emarginate in the middle, or more or less bilobed 21.
Labrum dentate. 25.
21. 1st joint of the posterior tarsi much longer than the 2nd. SCIMBALIUM Er., p. 212.
1st joint of the posterior tarsi slightly longer than the 2nd. 22.
22. Thorax cylindrical, much longer than broad; 3rd joint of the maxillary palpi pyriform [Rey, p. 210.
Thorax transverse, trapezoidal; 3rd joint of the maxillary palpi elongate .. PSEUDOBIMUM Muls. et
23.
23. Prosternal epimera present, the stigma concealed; base of abdomen keeled below in the middle. 24.
- Prosternal epimera absent, the stigma exposed; base of abdomen not keeled below anteriorly. Tarsi strongly dilated in both sexes.
24. Labrum with rather broad median emargination; eyes large, their diameter longer than the temples ISOCHILUS Shp., p. 163.
Labrum with minute median notch; eyes small, their diameter shorter than the temples [p. 126.
EXOMEDON, gen. n.,
[p. 127.
PACHYMEDON, gen. n.,
25. 5th tarsal joint inserted near the base of the 4th, and overlying it so that the latter appears bilobed when seen from above. [p. 120.
5th tarsal joint normally inserted at apex of 4th ACANTHOGLOSSA Kr.,
26.
26. Labrum bidentate in the middle or at least trisinate; prosternal epimera present, the stigma concealed. Eyes shorter than the temples. MEDON Steph., p. 129.

- Labrum unidentate in the middle; prosternal epimera absent, the stigma exposed 27.
27. Prosternal process very short; abdomen not keeled at the middle of the base below [p. 155.
LITHOCHARIS Boisd.,
- Prosternal process moderately long; abdomen distinctly keeled at the middle of the base below CHARICHIRUS Shp., p. 165.
28. Labrum emarginate, edentate; 4th joint of the maxillary palpi broad and obtuse, scarcely visible. Tibiæ setose [p. 219.
CEPHALOCHEILUS Motsch.,
- Labrum emarginate, bidentate; 4th joint of the maxillary palpi subulate. Tibiæ spinose [p. 225.
CRYPTOBIUM Mannh.,

Genus PÆDERUS Fab.

- Pæderus* Fab., Syst. Ent. 1775, p. 268; Steph., Ill. Brit. Ent. v, 1837, p. 279; Er., Käf. Mark. Brand. 1837-39, p. 517; id., Gen. Spec. Staph. 1839-40, p. 649; Lacord., Gen. Col. ii, 1854, p. 143; Kraatz, Naturg. Ins. Deutsch. ii, 1856-58, p. 724; Jacq. du Val, Gen. Col. d'Eur. ii, 1857-59, p. 48; Thoms., Skand. Col. ii, 1860, p. 195; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 327; Muls. et Rey, Ann. Soc. Linn. Lyon xxiv, 1877, p. 242; Reitt., Ent. Nach. xv, p. 169; Czwalińska, D. E. Z. 1889, p. 368; Blackb., Trans. Roy. Soc. S. Aust. xxiii, p. 22; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 534; Casey, Trans. Ac. St. Louis, xv, 2, 1905, pp. 58, 60.
- Pæderomorphus* Gaut., Ann. Soc. Ent. Fr. (4) ii, 1862, p. 75.
- Leucopæderus* Casey, Trans. Ac. St. Louis, xv, 2, 1905, pp. 59, 67.
- Pæderillus* Casey, Trans. Ac. St. Louis, xv, 2, 1905, pp. 59, 62.
- Subgen. *Pæderilus* Muls. et Rey, Ann. Soc. Linn. Lyon, xxiv, 1877, p. 245.
- Subgen. *Pæderus*, s. str., Muls. et Rey, Ann. Soc. Linn. Lyon, xxiv, 1877, p. 242.
- Subgen. *Pseudopæderus* Bornh., W. Z. B. lxx, 1915, p. 137.
- Subgen. *Gnathopæderus* Chapin, Proc. Biol. Soc. Wash. xl, 1927, p. 75.
- Subgen. *Pæderognathus* Wond., D. E. Z. 1928, p. 37 (*Gnathopæderus* Wend., Neue Beit. Insektenkunde, iv, 1927, p. 1).
- BIOLOGY.—Thoms., Skand. Col. ii, 1860, p. 195; Candèze, Mem. Soc. R. Sci. Liège, xvi, 1861, p. 329, t. i, fig. 2; Rupertsberger, Biol. Käf. Eur. 1880, p. 124.

Usually large or moderate-sized species, usually bicolorous, black or blue and red, occasionally entirely black or blue or even reddish. Elongate, moderately convex, the head exserted, constricted behind, forming a thick neck. Gular sutures distinct, converging behind to the constriction of the neck. Antennæ 11-jointed, filiform, inserted below the antero-external angle of the front before the eye. Labrum short, transverse, in the middle of the anterior border with a small acute emargination. Mandibles falciform, each with a bicuspid tooth at the middle except in subgen. *Pæderognathus*, where they are edentate. Lobes of the maxilla short, the inner

densely ciliated internally, the outer densely ciliated along the apical border. Maxillary palpi 4-jointed, moderately long, the 1st joint small, 2nd elongate, slightly thickened apically, 3rd longer, obconical, 4th small, almost as broad as the apex of the 3rd and obtuse. Mentum transverse, trapezoidal. Tongue broad, membranous, ciliate, in the middle with a small triangular emargination, the lobes rounded; paraglossæ well developed, densely ciliated and extending a little beyond the tongue. Labial palpi short, 3-jointed, the 1st joint scarcely longer than broad, 2nd longer, narrower, cylindrical, 3rd much narrower and much shorter than the preceding. Prosternum not keeled, hourglass-shaped, widened behind the coxal cavities, broadly rounded behind. Epimera large, fused with the epipleura, narrowly separated from the prosternum behind. Mesosternum with a very short acute process, the coxæ contiguous. Metasternum without anterior process, emarginate on either side behind, feebly emarginate in the middle between the posterior coxæ. Abdomen bordered above, the 1st ventral segment with or without a median keel, the apex with two stout spines. Scutellum visible. Elytra of normal length or reduced in the apterous forms. Legs rather long, the anterior coxæ elongate, prominent; the middle oval, contiguous; the posterior conical, narrowly separated. Femora elongate. Tibiæ setose. Tarsi 5-jointed, claws simple; the anterior with the first four joints separately dilated, subcordate, densely ciliate below; middle with the 1st joint about as long as the two following together, the 2nd longer than the 3rd, 4th bilobed, 5th rather long; posterior similar to the preceding, but with the joints proportionately longer.

Terrestrial species found in various situations. A few are responsible for dermatitis in man. Universally distributed.

Key to the Species.

- | | | |
|---|-----|---------|
| 1. Unicolorous species, at most with the apex of the abdomen lighter | 2. | |
| Bicolorous species | 4. | |
| 2. Elytra shorter than the thorax and widened behind (<i>Pseudopæderus</i> Bernh.) | 3. | |
| Elytra as long as the thorax, parallel; species entirely dark blue | | [p. 36. |
| 3. Shining black | | 62. |
| Shining reddish-yellow | | 3. |
| 4. Head entirely or in great part red. | 5. | |
| Head entirely black or blue-black. | 16. | |
| 5. Apterous: elytra shorter than the thorax and dilated behind. | 6. | |
| Winged; elytra at least as long as the thorax and parallel | 12. | |
| 6. Abdomen entirely black or pitchy | 7. | |
| Abdomen in part red. | 9. | |

7. Legs entirely reddish-yellow *allicepe* Cam., p. 61.
Legs with at least the posterior femora
darker at apex 8.
8. Abdomen depressed, distinctly wider
at the middle; apex of all the femora
and all the tibiae blackish *diversiceps*, sp. n., p. 61.
Abdomen nearly cylindrical; only the
apex of the posterior femora blackish.. *taprobanus*, sp. n., p. 61.
9. Apex of the femora and the tibiae more
or less black *andrewesi* Fauv., p. 53.
Legs entirely reddish-yellow 10.
10. Larger (12.5 mm.) *amplicollis* Kr., p. 58.
Smaller (6.5 to 10 mm.) 11.
11. Larger (10 mm.); thorax broader, more
quadrate *setifer* Cam., p. 60.
Smaller (6.5 mm.); thorax narrow, ovate. *hingstoni* Cam., p. 62.
12. Legs black 13.
Legs reddish-yellow 14.
13. Head more or less cyaneous; 1st (visible)
abdominal segment entirely red *variiceps* Kr., p. 53.
Head red; 1st (visible) abdominal seg-
ment narrowly blackish at the base .. *nepalensis* Bernh., p. 55.
14. Last three abdominal segments black .. *distinctus*, sp. n., p. 57.
Last two abdominal segments black.... 15.
15. Elytra blue; larger (7.5 mm.) *gratiosus* Fauv., p. 57.
Elytra black; smaller (6.25 mm.) *nigripennis* Cam., p. 57.
16. Apterous; elytra narrowed at the base
and dilated behind 17.
Winged; elytra parallel 18.
17. 1st abdominal segment red; elytra
..... *capillaris* Fauv., p. 56.
..... segment black; elytra
blue *tibetanus* Cam., p. 55.
18. Head black 19.
Head blue or blue-black 26.
19. Legs (including the coxæ) dark 20.
Legs (in part at least) testaceous 21.
20. Head orbicular; 1st visible segment of
abdomen red *extraneus* Wied., p. 41.
Head elongate, the temples obliquely
converging behind; 1st visible segment
of abdomen black *nigricornis* Bernh., p. 47.
21. Coxæ and extreme base of the femora
testaceous *alternans* Walk., p. 41.
Coxæ and femora entirely or in great
part testaceous 22.
22. Anterior femora entirely testaceous 23.
Anterior femora dark at apex 24.
23. Larger (9 mm.). Last joint of antennæ
testaceous *sondaicus* Fauv., p. 37.
Smaller (6.5 mm.). Last joint of an-
tennæ concolorous *fuscipes* Curt., p. 40.
24. Thorax closely and distinctly punctured.
Length 9 mm. *sharpi* Cam., p. 38.
Thorax sparingly and finely punctured.. 25.
25. Head transverse *ceylonicus* Bernh., p. 38.
Head orbicular *himalayicus* Bernh., p. 39.
26. Legs (including the coxæ) entirely black. 27.
Legs with at least the coxæ testaceous .. 34.
27. Larger (9.5 mm.) 28.
Smaller (5.2 to 8.25 mm.) 29.

28. Head orbiculate; elytra quadrate, the puncturation unequal *basalis* Bernh., p. 54.
 Head narrowed behind; elytra longer than broad, the puncturation fine, equal *kuluensis* Bernh., p. 55.
29. Base of 1st visible abdominal segment blackish *birmanus* Fauv., p. 46.
 Base of 1st visible abdominal segment concolorous 30.
30. Scutellum black 31.
 Scutellum reddish 33.
31. Elytra dark blue 32.
 Elytra steel-blue; build resembling *fuscipes* *melampus* Er., p. 43.
32. Head and thorax narrowed behind; build somewhat resembling *birmanus* .. *almorensis*, sp. n., p. 49.
 Head more orbicular; thorax less narrowed behind; build somewhat resembling *fuscipes* *tamulus* Er., p. 43.
33. Larger (8 mm.). Elytra densely punctured with thick grey pubescence *pubescens* Cam., p. 44.
 Smaller (5.5 mm.). Elytra less closely punctured and normally pubescent .. *conicollis* Motsch., p. 51.
34. Last 3 or 4 joints of the antennæ testaceous *variicornis* Fauv., p. 49.
 Last joints of the antennæ concolorous .. 35.
35. Femora broadly testaceous at base 36.
 Femora narrowly or not at all testaceous at the base 37.
36. Head orbicular *cycanocephalus* Er., p. 44.
 Head elongate *fecæ* Fauv., p. 50.
37. Elytra pubescent without erect setæ ... *argentiatus* Cam., p. 45.
 Elytra pubescent with erect setæ 38.
38. Sculpture of elytra very coarse and rugose *pilifer* Motsch., p. 44.
 Sculpture of elytra normal 39.
39. Head not attenuated behind the eyes ... *cozalis* Fauv., p. 42.
 Head attenuated behind the eyes 40.
40. Elytra dark blue, deeply rather coarsely and closely punctured *horni* Bernh., p. 52.
 Elytra blue-black or black with slight blue or green reflex 41.
41. Larger (7 mm.) and more robust; elytra closely finely and uniformly punctured. *germanus*, sp. n., p. 51.
 Smaller (6 mm.) and narrower; elytra less closely, less finely, less uniformly punctured *greeni*, sp. n., p. 53.

P. puberulus Motsch., unknown to me, is omitted from this table (see p. 46).

565. *Pæderus atrocyaneus*.

Pæderus atrocyaneus Champ.*, E. M. M. lxiii. 1927, p. 50.

Shining dark blue, the elytra and abdomen more blue-black. Antennæ, palpi, and legs black. Length 5.5 to 7 mm.

From all the known Indian species at once distinguished by its colour. Somewhat resembling *P. conicollis* in build, but with longer and more slender antennæ. Head about as long as broad, a little broader than the thorax, the eyes

rather prominent, the temples gradually retracted and very slightly rounded to the base, finely and moderately closely punctured behind the eyes, more closely and coarsely behind the antennal tubercles, pubescence fine and grey and with some long black setæ. Antennæ long and slender. Thorax ovate, narrower behind, smooth along the middle, finely punctured at the sides, pubescence and setæ as on the head. Elytra (measured from the base) as long as the thorax, parallel, finely and not very closely punctured, finely pubescent and with some erect black setæ. Abdomen finely moderately closely punctured, finely grey pubescent and with some erect black setæ. Anal styles distinct, black.

♂: 6th ventral segment with deep parallel-sided excision, its apex rounded, its sides bordered; 5th scarcely perceptibly emarginate.

Bengal: Burikhola; Kalimpong; Darjeeling, Nurbong, Mahanadi Valley (*H. Stevens*).

566. *Pæderus sondaicus*. (Figs. 1 & 2.)

Pæderus sondaicus Fauv., Rev. d'Ent. xiv, 1895, p. 232.

Pæderus javanus Er., Gen. Spec. Staph. p. 654 (nec Cast.); Kr., Arch. Naturg. xxv, 1859, i, p. 150.

Shining; head and last two abdominal segments black; thorax and first four (visible) segments red; elytra blue.

Fig. 1.

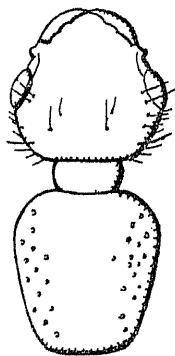
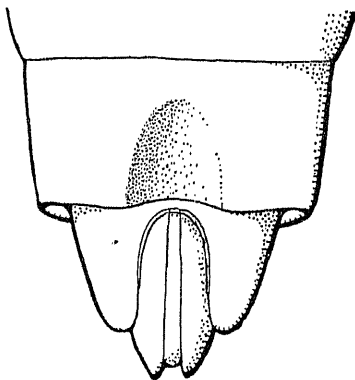


Fig. 2.



Pæderus sondaicus.

Fig. 1.—Head and thorax.

Fig. 2.—Apex of abdomen of ♂; ventral surface.

Antennæ blackish, the first three or four and the 11th joints testaceous. Mandibles red. Palpi testaceous. Legs pitchy-black, the coxæ and base of the femora broadly testaceous. Length 9 mm.

Thorax convex, a little longer than broad, moderately narrowed behind, smooth along the middle, the sides sparingly and moderately finely punctured. Elytra scarcely longer but broader than the thorax, parallel, coarsely, deeply, and rather closely punctured. Abdomen moderately finely and moderately closely punctured. The whole insect covered with a fine whitish scanty pubescence and longer black setæ.

♂: 6th ventral segment with deep, narrow, parallel-sided excision, the edges of the excision bordered.

Simla Hills: Dharampur, alt. 5000 feet. Chakrata: Kanasar, alt. 7050 feet. Almora: Dwarahat, alt. 5000 feet; Kali Valley, alt. 9000 feet. Sikkim: Darjeeling.

570. *Pæderus fuscipes*.

Pæderus fuscipes Curt., Ent. Brit. iii, 1823-40, p. 108; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 334; Ganglb., Käf. Mitt-Eur. ii, 1895, p. 537.

Pæderus astuans Er., Gen. Spec. Staph. 1839-40, p. 655.

Pæderus angolensis Er., Arch. Naturg. ix, 1843, i, p. 222.

Pæderus corsicus Gaut., Ann. Soc. Ent. Fr. (4) i, 1861, p. 393.

Pæderus erichsoni Woll., Col. Hesperid. 1867, p. 247.

Pæderus fennicus J. Sahlb., En. Col. Brach. Fenn. 1876, p. 38.

Pæderus idæ Shp., Trans. Ent. Soc. Lond. 1874, p. 75.

Pæderus longipennis Er., Käf. Mark. Brand. 1837-39, p. 517; id.,

Gen. Spec. Staph. 1839-40, p. 651; Kraatz, Naturg. Ins. Deutsch. ii, 1856-58, p. 728; Thoms., Skand. Col. ii, 1860, p. 196; Muls. et Rey, Ann. Soc. Linn. Lyon, 1877, p. 261.

Pæderus riparius Grav., Col. Micr. Brunsv. 1802, p. 62.

Pæderus riparius var. *peregrinus* Er., Gen. Spec. Staph. 1839-40, p. 656; Blanch., Voy. Pôlé Sud, Zool. iv, p. 55, t. 4, f. 10;

Kraatz, Arch. Naturg. xxv, 1859, i, p. 151.

Pæderus breviceps Bernh., D. E. Z. 1902, p. 37.

Shining; head and last two abdominal segments black; thorax and first four (visible) segments red; elytra blue. Mandibles and palpi testaceous, the apex of the 3rd joint narrowly infusate. Antennæ dark, the first three or four joints testaceous. Legs testaceous, the apex of the femora, base of the tibiæ and tarsi more or less infusate. Length 6.5 to 7 mm.

Var. *peregrinus*.

Anterior legs entirely testaceous.

Colour of body and general facies similar to *P. sondaicus*, but much smaller and less robust. Head orbicular, as broad as the thorax, the eyes large; almost smooth along the middle, the sides and base finely and not very closely punctured. Antennæ moderate, all the joints longer than broad. Thorax a little longer than broad, convex, the sides nearly straight and not much retracted behind, smooth along the middle, finely and sparingly punctured at the sides. Elytra broader and about

Dr. Bernhauer does not appear to have known *P. sondaicus* Fauv. (*javanus* Er., nec Cast.) at the time of writing except from the description, and it is possible it is only a small form of this insect.

Ceylon : Hatton.

569. *Pæderus himalayicus*. (Fig. 3.)

Pæderus himalayicus Bernh., W. Z. B. lxiv, 1914, p. 98.

Pæderus indicus Bernh., Ent. Blätt. vii, 1911, p. 61 (nec Motschoulsky).

Winged ; shining. Head and last two abdominal segments black ; thorax and first four (visible) abdominal segments

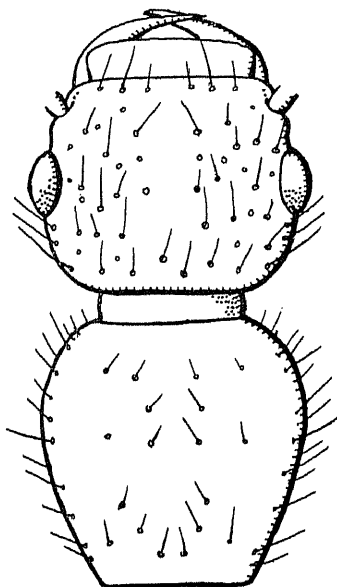


Fig. 3.—*Pæderus himalayicus*, head and thorax.

red ; elytra blue. Antennæ dark, the first three and the last one or two joints testaceous. Palpi testaceous. Legs black, the coxæ and the bases of the femora broadly testaceous. Length 7 to 8 mm.

In colour scarcely differing from *P. sondaicus* Fauv., but smaller and distinctly narrower, the elytra shorter and rather less closely punctured. Head orbicular, as broad as the thorax, smooth along the middle and with numerous larger and smaller setiferous punctures at the sides and base. Antennæ slender, the penultimate joint twice as long as broad.

Thorax convex, a little longer than broad, moderately narrowed behind, smooth along the middle, the sides sparingly and moderately finely punctured. Elytra scarcely longer but broader than the thorax, parallel, coarsely, deeply, and rather closely punctured. Abdomen moderately finely and moderately closely punctured. The whole insect covered with a fine whitish scanty pubescence and longer black setæ.

♂: 6th ventral segment with deep, narrow, parallel-sided excision, the edges of the excision bordered.

Simla Hills: Dharampur, alt. 5000 feet. Chakrata: Kanasar, alt. 7050 feet. Almora: Dwarahat, alt. 5000 feet; Kali Valley, alt. 9000 feet. Sikkim: Darjeeling.

570. *Pæderus fuscipes*.

Pæderus fuscipes Curt., Ent. Brit. iii, 1823-40, p. 108: Fauv., Faun. Gallo-Rhén. iii, 1872, p. 334; Ganglb., Käf. Mitt-Eur. ii, 1895, p. 537.

Pæderus astuans Er., Gen. Spec. Staph. 1839-40, p. 655.

Pæderus angolensis Er., Arch. Naturg. ix, 1843, i, p. 222.

Pæderus corsicus Gaut., Ann. Soc. Ent. Fr. (4) i, 1861, p. 393.

Pæderus erichsoni Woll., Col. Hesperid. 1867, p. 247.

Pæderus fennicus J. Sahlb., En. Col. Brach. Fenn. 1876, p. 38.

Pæderus idæ Shp., Trans. Ent. Soc. Lond. 1874, p. 75.

Pæderus longipennis Er., Käf. Mark. Brand. 1837-39, p. 517; id., Gen. Spec. Staph. 1839-40, p. 651; Kraatz, Naturg. Ins.

Deutsch. ii, 1856-58, p. 728; Thoms., Skand. Col. ii, 1860, p. 196; Muls. et Rey, Ann. Soc. Linn. Lyon, 1877, p. 261.

Pæderus riparius Grav., Col. Micr. Brunsv. 1802, p. 62.

Pæderus riparius var. *peregrinus* Er., Gen. Spec. Staph. 1839-40, p. 656; Blanch., Voy. Pale Sud, Zool. iv, p. 55, t. 4, f. 10; Kraatz, Naturg. Ins. xxv, 1859, i, p. 151.

Pæderus . . . , D. E. Z. 1902, p. 37.

Shining; head and last two abdominal segments black; thorax and first four (visible) segments red; elytra blue. Mandibles and palpi testaceous, the apex of the 3rd joint narrowly infusate. Antennæ dark, the first three or four joints testaceous. Legs testaceous, the apex of the femora, base of the tibiæ and tarsi more or less infusate. Length 6.5 to 7 mm.

Var. *peregrinus*.

Anterior legs entirely testaceous.

Colour of body and general facies similar to *P. sondaicus*, but much smaller and less robust. Head orbicular, as broad as the thorax, the eyes large; almost smooth along the middle, the sides and base finely and not very closely punctured. Antennæ moderate, all the joints longer than broad. Thorax a little longer than broad, convex, the sides nearly straight and not much retracted behind, smooth along the middle, finely and sparingly punctured at the sides. Elytra broader and about

half as long again as the thorax, parallel, closely and rather strongly punctured and with a fine scanty whitish pubescence. Abdomen very finely, not very closely punctured with a fine scanty whitish pubescence. The whole insect with numerous fine erect black setæ all over.

♂: 6th ventral segment with a deep, narrow, parallel-sided excision, the edges bordered: 5th at the middle of the posterior border with a small, shallow, scarcely perceptible emargination.

Widely distributed throughout India and Ceylon. Also in the rest of the world except America. In the East is particularly abundant in the paddy-fields. The form *peregrinus* appears to be the more common in the Oriental Region.

571. *Pæderus extraneus*.

Pæderus extraneus Wied., Zool. Mag. ii, i, 1818, pp. 133, 200; Er., Gon. Spec. Staph. 1839-40, p. 661; Kr., Arch. Naturg. xxv, 1859, i, p. 152.

Black, elytra blue, thorax and first four abdominal segments red, the antennæ and palpi pitchy at base. Length 7·2 mm.

Similar to *P. riparius* F., but a little larger. Antennæ nearly as long as the head and thorax, the 3rd joint almost twice as long as the 2nd, 4th to 10th obviously shorter but scarcely thicker, the 11th elongate, the first two joints obscure reddish-testaceous below, pitchy above, the rest black. Palpi pitchy-testaceous, the 3rd joint black. Mandibles black. Head orbicular, as broad as the thorax, somewhat convex above, black, shining, closely, finely and obsoletely punctured. Thorax red, shining, shortly oval, almost as broad as the elytra, a little longer than broad, the sides slightly rounded, narrowed behind, convex, closely, finely and obsoletely punctured, impunctate along the middle. Scutellum black. Elytra scarcely a fourth longer than the thorax, closely, not very strongly punctured, blue, a little shining and covered with white pubescence. Abdomen finely punctured, pubescence long and white; the first four segments red, the rest black. Sternum black. Legs with the coxæ black.

Bengal (ex *Erichson*).

572. *Pæderus alternans*. (Fig. 4.)

Pæderus alternans Walk.*, Ann. Mag. Nat. Hist. (3) ii, 1858, p. 205. *Pæderus ruficoxis* Kr., Arch. Naturg. xxv, 1859, i, p. 151.

Shining; head and last two abdominal segments black, thorax and first four (visible) segments red; elytra blue. Antennæ black, the first three joints more or less testaceous; palpi with the 3rd joint black. Legs black, the coxæ and extreme base of the femora reddish-yellow. Length 6 to 7 mm.

Resembling *P. fuscipes* Curt. in build except that the head is more orbicular; the colour of the body is similar, that of the legs and antennæ quite different. Head orbicular, the post-ocular region evenly rounded to the neck, a little broader than the thorax, with a few small setiferous punctures. Antennæ moderate, slender, all the joints longer than broad. Thorax ovate, convex, longer than broad, not much narrowed behind, smooth along the middle, the sides with fine, sparing, setiferous punctures. Elytra a little broader and about a third longer than the thorax, parallel, rather finely and not very closely punctured, with a fine greyish semi-erect pubescence. Abdomen finely and sparingly punctured, finely and sparingly pubescent with a few long black setæ.

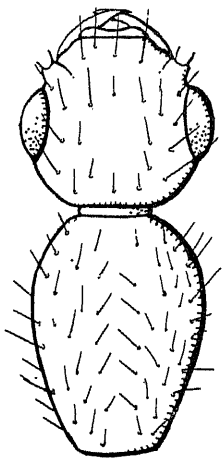


Fig. 4.—*Pæderus alternans*, head and thorax.

♂: 6th ventral segment with a long, narrow, oval excision, the edges of which are bordered.

Ceylon: Colombo; Maskeliya. India: Nilgiri Hills; Kanara; Himalayas. Burma: Kawkareik; Pegu. Also in Annam, Tonkin.

This insect is stated to cause inflammation of the skin in man.

573. *Pæderus coxalis*.

Pæderus coxalis Fauv., Rev. d'Ent. xiv, 1895, p. 232.

Very similar in build to *P. fuscipes* Curt., but the head is blue and although of the same shape is not so broad and the eyes are smaller, the thorax is more punctured, the elytra

more finely and more closely punctured, the legs are pitchy-brown, the extreme base of the femora and the coxæ reddish-testaceous. Length 6·5 to 7·5 mm.

Burma : Senmigion ; Vyonk-Myoning ; Mandalay ; Teinzo ; Rangoon ; Bhamo ; Schwego-myo ; Myeen-Kyan (*L. Fea*).

574. *Pæderus melampus*.

Pæderus melampus Er., Gen. Spec. Staph. 1839-40, p. 660 ; Kr., Arch. Naturg. xxv, 1859, i, p. 153.

Shining. Head blue-black, thorax and first four visible abdominal segments red, the following black. Elytra steel-blue. Antennæ with the first two joints testaceous below, more or less pitchy above, the rest black. Palpi with 3rd joint black. Legs black, the coxæ black or pitchy. Length 6 mm.

Very similar in build to *P. fuscipes* Curt., but with shorter elytra, these being only a little longer than the thorax. The head has a distinct blue tinge, the elytra are not bright blue, but black with steel-blue reflex. The antennæ are similar in structure. The puncturation of the elytra is finer and less deep.

Belgaum. Dacca.

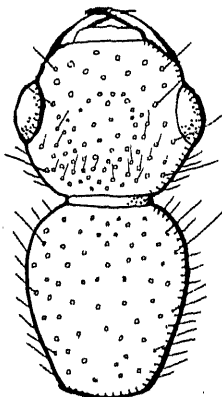


Fig. 5.--*Pæderus tamulus*, head and thorax.

575. *Pæderus tamulus*. (Fig. 5.)

Pæderus tamulus Er., Gen. Spec. Staph. 1839-40, p. 661 ; Kraatz, Arch. Naturg. xxv, 1859, i, p. 153.

Pæderus dubius Kr., Arch. Naturg. xxv, 1859, i, p. 151.

Pæderus mixtus Shp., Trans. Ent. Soc. Lond. 1874, p. 75.

Pæderus rugipennis Motsch., Et. Ent. viii, 1859, p. 74.

Shining. Head and elytra blue. Thorax and first four abdominal segments red, the rest black. Antennæ black,

the first two joints reddish-yellow. Legs and 3rd joint of the palpi black. Length 6 to 7 mm.

Size and build of *P. fuscipes* Curt., but the elytra shorter, not much longer than the thorax and of a less brilliant blue and more finely punctured. The head is less finely and more closely punctured. The antennæ are formed as in *fuscipes*.

♂: 6th ventral segment with the usual deep excision.

Ceylon: Colombo; Kandy. Widely distributed throughout India and Burma. Also in Sumatra, Java, Singapore, Tonkin, China, and Southern Japan.

576. *Pæderus cyanocephalus*.

Pæderus cyanocephalus Er., Gen. Spec. Staph. 1839-40, p. 662;

Kraatz, Arch. Naturg. xxv, 1859, i, p. 152.

Pæderus indicus Motsch., Bull. Mosc. xxxi, 1858, ii, p. 634.

Shining; head and elytra blue, thorax and first four (visible) abdominal segments red, the following black. Antennæ and palpi black, the first two joints of the former reddish-testaceous. Legs black, the coxæ and greater part of the femora reddish-testaceous. Length 6 to 8 mm.

In build similar to *P. tamulus* Er. Head orbicular, a little broader than the thorax, bi-impressed in front, finely, sparingly punctured except along the middle and with a fine whitish pubescence. Antennæ long and slender, all the joints longer than broad. Thorax oblong-ovate, convex, the sides retracted behind, very finely and sparingly punctured. Elytra longer and broader than the thorax, parallel, sparingly and obsoletely punctured, with a fine whitish pubescence. Abdomen finely, sparingly punctured, with rather long whitish pubescence.

"Ind. or." (without further indication). Also in Siam, Java, etc.

577. *Pæderus pilifer*.

Pæderus pilifer Motsch., Etud. Ent. viii, 1859, p. 74.

Very near *cyanocephalus* (*indicus* Motsch.), of the same colours, but furnished throughout with black, straight, scanty setæ, the thorax more convex and more oval, the elytra very strongly rugose as if scarred and the legs blacker and thickly covered with yellow hairs.

Tranquebar (ex *Motschoulsky*).

578. *Pæderus pubescens*. (Fig. 6.)

Pæderus pubescens Cam., Trans. Ent. Soc. Lond. 1914, p. 539.

Head greenish-blue, thorax and first four visible segments of the abdomen red, elytra blue-black, last two abdominal segments and legs black. Anterior coxæ, 3rd joint of palpi,

antennæ (except the first two joints, which are brownish-testaceous) black. Length 8 mm.

In size and build very similar to *P. ruficollis* F., but broader, the antennæ longer, much more thickly pubescent. Head suborbicular, as broad as the thorax, very finely punctured, with distinct silvery pubescence. Antennæ slender, all the joints longer than broad. Mandibles black. Thorax oviform, not bordered at the sides, very sparingly and finely punctured, with silvery pubescence. Scutellum red. Elytra parallel, a little broader and longer than the thorax, puncturation rather fine, squamous as in *variicornis*, densely

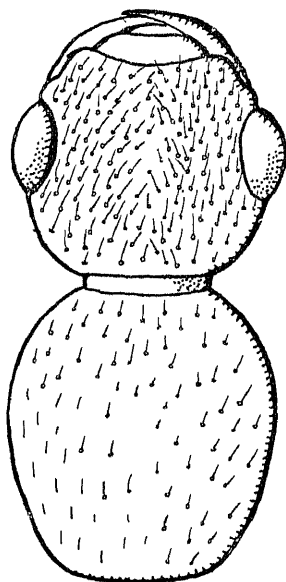


Fig. 6.—*Pæderus pubescens*, head and thorax.

covered with silvery depressed pubescence, without any erect black setæ. This species is devoid of long black setæ on the thorax, elytra, etc.

♂: 6th ventral segment with narrow, deep, parallel-sided excision, the sides of which are bordered.

Assam. Bengal: Dacca. Punjab: Lahore.

579. *Pæderus argentatus*.

Pæderus argentatus Cam., Trans. Ent. Soc. Lond. 1914, p. 540.
(Fauvel in litt.)

Head and elytra cyaneous, thorax and first four visible segments of the abdomen red, the last two black. Anterior

coxæ internally, tibiæ and base of the femora, obscure brownish-testaceous, the rest black. Antennæ black, scarcely lighter at the base. Distinctly pubescent. Length 7 mm.

Near *P. pubescens* Cam. and *P. conicollis* Motsch. and intermediate in build; smaller than *pubescens*, larger than *conicollis*, the head more narrowed behind than in the former, less than in the latter, thorax broader and with more rounded sides than in *conicollis*, narrower than in *pubescens*. Agrees with the latter in the complete absence of erect black setæ on the elytra and abdomen and the close silvery pubescence. Head suborbicular, broader than the thorax, distinctly punctured at the sides in front, pubescence distinct, silvery. Mandibles black. Thorax long, oviform, distinctly but not closely punctured, the sides not bordered. Elytra half as long again as the thorax, parallel, finely and closely punctured, and with distinct silvery pubescence. Abdomen finely but not very closely punctured, clothed with long silvery semi-erect pubescence, not interspersed with any black setæ.

Karachi (*T. R. D. Bell*).

580. *Pæderus puberulus*.

Pæderus puberulus Motsch., Et. Ent. viii, 1859, p. 74.

Larger than *P. conicollis*, the head rounder, thorax more convex with more rounded sides, the scutellum black, the elytra longer and more ample, more finely rugose and the pubescence greyer (ex *Motschoulsky*).

A specimen in my collection from Madura, the type-locality, appears to agree with the above. It is 6 mm. long. From *P. tamulus*, which it closely resembles, it is distinguished by the following differences: the elytra are of a more greenish-blue colour, the puncturation rather finer, the head is a little narrower but broader than the thorax, more obliquely retracted behind, the eyes a little smaller; the antennæ are a little longer and a little stouter; the thorax obviously more finely punctured.

Madura.

581. *Pæderus birmanus*. (Fig. 7.)

Pæderus birmanus Fauv.*, Rev. d'Ent. xiv, 1895, p. 233.

Shining. Head and elytra blue, thorax red, the base of the 1st (visible) † and the last two segments black, the rest red. Antennæ, palpi, and legs black. Length 7 to 8 mm.

Somewhat resembling *P. nigricornis* in facies, but differently coloured, rather broader, the head less narrowed, less straight behind, thorax and elytra broader. Head a little broader

† The blackish coloration of the base of this segment is not mentioned in the original description, although quite visible in the type.

than the thorax, suborbicular, the post-ocular region gently rounded and retracted to the neck, broadly superficially impressed near the base of the antennal tubercle; very finely, rather sparingly punctured. Antennæ long and slender, all the joints longer than broad, the 10th twice as long as broad, the 11th longer than the 10th. Thorax convex, a little longer than broad, the sides rounded in front, straighter and rather strongly retracted behind, very finely, indistinctly, and sparingly punctured. Elytra a little longer and broader than the thorax, parallel, with a fine, unequal, moderately close puncturation. Abdomen very finely punctured, the base of the 1st (visible) segment more strongly and closely.

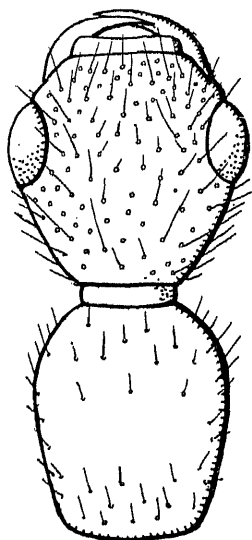


Fig. 7.—*Pæderus birmanus*, head and thorax.

The whole insect covered with a fine whitish pubescence and longer, black, erect and semi-erect hairs.

♂: 6th ventral segment with a deep, rather broad, parallel excision with bordered margins.

Burma: Carin Cheba; Carin Asciiui Cheba, alt. 800 to 1400 metres. Assam: Naga Hills, alt. 3000 to 6000 feet.

582. *Pæderus nigricornis*. (Fig. 8.)

Pæderus nigricornis Bernh., Ent. Blätt. vii, 1911, p. 61.

Elongate, shining, the head, 1st (visible) and last two segments of the abdomen black; thorax and 2nd to 4th segments

red; elytra blue. Antennæ black, the first two joints more or less testaceous. Palpi, legs (including the coxæ) black. Length 8 mm.

In build very similar to *P. birmanus* Fauv., but the thorax is narrower, and the black head and first abdominal segment at once distinguish it. Head elongate, longer than broad, broader than the thorax, the eyes prominent, the post-ocular region almost straight and converging to the neck; impressed on either side in front; sculpture sparing and consisting of larger and smaller punctures, the post-ocular region with a few setæ, otherwise glabrous. Antennæ long and slender,

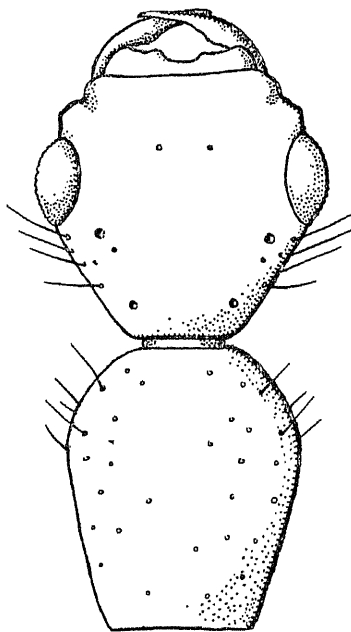


Fig. 8.—*Pæderus nigricornis*, head and thorax.

extending beyond the base of the thorax, all the joints much longer than broad. Thorax narrow, oval, not much widened in front, longer than broad, impunctate along the middle, the sides very finely and sparingly punctured and with a few erect black setæ. Elytra a little longer and broader than the thorax, parallel, rather finely and not very closely punctured, with rather long, semi-erect, black pubescence. Abdomen rather coarsely and closely punctured at the base of the 1st (visible) segment, elsewhere very finely and sparingly, the pubescence yellow, scanty, and with a few longer black setæ.

♂: 6th ventral segment with a deep narrow excision, the sides nearly parallel and margined.

Nepal: Soondrijal. Simla Hills: Chakrata district (*Cameron*). Darjeeling, Nurbong and Mahanadi Valleys (*H. Stevens*).

583. *Pæderus almorensis*, sp. n. (Fig. 9.)

Very similar to *P. birmanus* Fauv., but differing in the following respects: the 2nd joint of the palpi and the under surface of the first two antennal joints are reddish-testaceous; the first visible abdominal segment is not blackened at the base, the head is more strongly narrowed behind and the

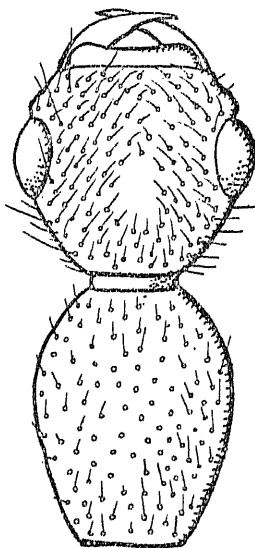


Fig. 9.—*Pæderus almorensis*, head and thorax.

eyes larger, the thorax narrower and less finely punctured, the elytra finely and equally punctured, covered with a fine decumbent whitish pubescence, but without the longer erect hairs seen in *birmanus*. Length 8 mm.

W. Almora: Fyzabad.

584. *Pæderus variicornis*. (Fig. 10.)

Pæderus variicornis Fauv., Rev. d'Ent. xxii, 1903, p. 154.

Shining; head blue, elytra blue or greenish-blue, thorax and first four (visible) segments red, the last two black. Antennæ black, the first two joints reddish-testaceous below, the last three reddish-testaceous. Palpi black. Legs black, the basal half of the femora testaceous. Length 7.5 to 9.5 mm.

In build and antennal structure similar to *P. birmanus* Fauv., but more robust. Head a little broader than the thorax, elongate, the post-ocular region scarcely rounded, obliquely retracted to the neck, in front bi-impressed, rather finely, moderately closely punctured except along the middle, and with several black setæ. Antennæ long and slender, all the joints much longer than broad. Thorax oval, very finely and very sparingly punctured at the sides. Scutellum red. Elytra a little longer and broader than the thorax, more finely, more closely and evenly punctured than in *birmanus*, finely pubescent and with numerous short black setæ. Abdomen finely and sparingly punctured, setiferous.

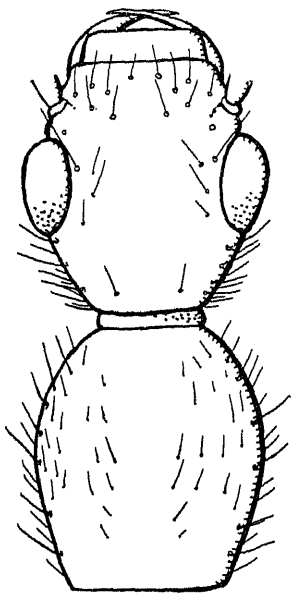


Fig. 10.—*Pæderus variicornis*, head and thorax.

♂: 6th ventral segment with deep, parallel, margined excision; 5th with small feeble emargination at the middle of the posterior border.

Nilgiris: Coonoor. Ghozeh. Madura. Kanara.

585. *Pæderus feæ*.

Pæderus feæ Fauv.*, Rev. d'Ent. xiv, 1895, p. 232.

Very near *P. variicornis* Fauv., but differing in the following respects: the antennæ except for the first two joints are black, the head more rounded, less obliquely narrowed behind the

eyes, more closely punctured, thorax more dilated in front, less finely punctured, the last two abdominal segments often with a bluish tinge. In the type in the British Museum the legs are entirely yellow. Length 8 mm.

Burma : Senmigion ; Katha ; Teinzo (*Fea*).

586. *Pæderus germanus*, sp. n.

Very near *P. varicornis* Fauv., but differing in the following respects : smaller (6·25 mm.), the terminal joints of the antennæ concolorous, head a little shorter, the obliquely retracted post-ocular region shorter ; scutellum black, the elytra more closely and more strongly punctured, blacker. Length 7 mm.

Nilgiri Hills.

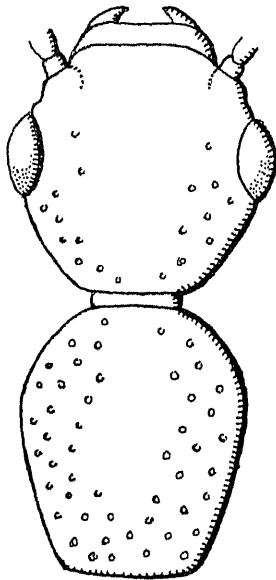


Fig. 11.—*Pæderus conicollis*, head and thorax.

587. *Pæderus conicollis*. (Fig. 11.)

Pæderus conicollis Motsch., Et. Ent. viii, 1859, p. 73.

Shining. Head and elytra blue-black. Thorax, scutellum, and first four (visible) abdominal segments red, the following black. Antennæ black, the first two joints reddish-yellow below. Palpi with 2nd joint reddish-yellow, the 3rd black. Legs (including the coxæ) black. Length 5 to 5·5 mm.

Of the build and coloration of *P. almorensis*, but much smaller, the antennæ shorter and the elytra less finely punctured. Head ovate, retracted and rounded behind the eyes, a little broader than the thorax, impressed on each side near the base of the antennal tubercle, very finely and moderately closely punctured. Antennæ moderate, the penultimate joints a little longer than broad. Thorax narrow, a third longer than broad, obconical, very finely and sparingly punctured, smooth along the middle. Elytra as long as, but broader than the thorax, parallel, moderately coarsely and moderately closely punctured. The whole insect covered with a whitish pubescence (thickest on the abdomen) and long erect and semi-erect hairs.

♂: 6th ventral segment with the narrow deep excision.

Nilgiri Hills. Belgaum. Khandesh. Pondicherry. Genji.

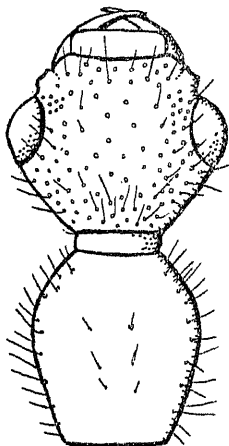


Fig. 12.—*Pæderus horni*, head and thorax.

588. *Pæderus horni*. (Fig. 12.)

Pæderus horni Bernh.*, D. E. Z. 1902, p. 38.

Shining; head greenish-blue, thorax and first four abdominal segments red, the following black; elytra dark blue or almost black. Antennæ black, the first two joints reddish-testaceous, occasionally a little infuscate above. Legs black, the coxæ and extreme base of the femora reddish-testaceous. Length 6 mm.

Near *P. conicollis*, but differs in the greenish-blue more strongly attenuated head, longer and more slender antennæ,

more coarsely punctured elytra, which are also of a dark blue colour. Head broader than long, broader than the thorax, the post-ocular region straight and strongly converging behind, moderately coarsely, irregularly punctured at the sides, much more sparingly along the middle. Antennæ moderately long, all the joints distinctly longer than broad. Thorax longer than broad, narrowed behind, the sides finely and sparingly punctured. Elytra longer and broader than the thorax, moderately coarsely and rather closely punctured. Abdomen finely and sparingly punctured. The whole insect has a fine grey pubescence and numerous erect or semi-erect black setæ.

Ceylon : Nalanda ; Tissa.

589. *Pæderus greeni*, sp. n.

Very closely allied to *P. horni* Bernh., and only differing in the thorax being a little narrower, the elytra black with a very slight bluish reflex, less coarsely, less deeply, and less uniformly punctured. Length 6 mm.

Ceylon : Hambantota, viii. 1890 (*H. P. Green*).

590. *Pæderus variceps*.

Pæderus variceps Kr., Arch. Naturg. xxv, 1850, i, p. 152.

Red, the head more or less nigro-cærulescent, elytra and last two abdominal segments black, the former obscurely bluish. Antennæ black, the first two joints reddish below ; 3rd joint of the palpi and legs (including the coxæ) black. Length 8 mm.

In build very similar to the European *P. ruficollis* F., but the head more strongly narrowed behind the eyes and the elytra a little longer. Head a little broader than the thorax, obliquely narrowed and rounded behind the large eyes, impressed near the base of the antennal tubercle on each side, the sculpture consisting of larger and smaller punctures irregularly distributed ; pubescence fine whitish and more or less erect. Antennæ slender, reaching the base of the thorax, all the joints longer than broad. Thorax distinctly longer than broad, obconical, the sides rounded in front, smooth along the middle, elsewhere very finely and not closely punctured, with a similar pubescence to that of the head. Elytra about a third longer and distinctly broader than the thorax, parallel, moderately finely and moderately closely punctured, the pubescence short, white. Abdomen very finely and not very closely punctured, with a long white pubescence.

♂ : 6th ventral segment with a narrow deep nearly parallel-sided excision, the edges of which are margined.

Ceylon : Kandy.

591. *Pæderus basalis*. (Fig. 13.)

Pæderus basalis Bernh.*, W. Z. B. lxiv, 1914, p. 98.

Shining; head and elytra blue, thorax and abdomen red, the base of the 1st (visible) and the last two segments black. Antennæ, palpi, and legs black. Length 9.5 mm.

A rather robust species. Head a little broader than the thorax, somewhat orbicular, but with the post-ocular region gently rounded and gradually converging to the neck moderately closely, unequally punctured. Antennæ long and slender, the 10th joint fully twice as long as broad, the 11th longer than the 10th. Thorax a little longer than broad,

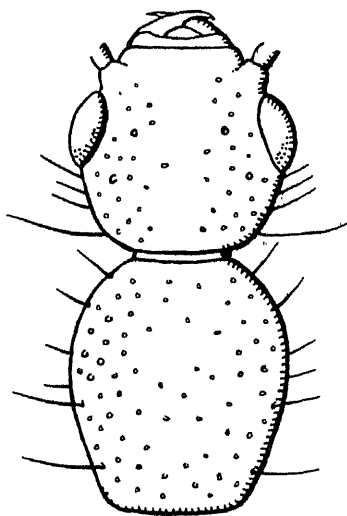


Fig. 13.—*Pæderus basalis*, head and thorax.

convex, moderately narrowed behind, finely and sparingly punctured at the sides, smooth along the middle. Elytra a little longer and distinctly broader than the thorax, almost square, rather finely, not very closely punctured and with a few larger punctures amongst them. Abdomen very finely and moderately closely punctured. The whole insect covered with a fine whitish and not close pubescence and numerous erect and semi-erect black setæ.

♂: 6th ventral segment with narrow, deep, parallel-sided excision, the edges bordered. 5th with small impression in front of the posterior border, which is here feebly emarginate.

Siwaliks. Dehra Dun. Mussoorie.

592. *Pæderus kuluensis*.

Pæderus kuluensis Bernh., W. Z. B. lxiv, 1914, p. 99.

Very near *P. basalis*, of the same size and colour and only differing in the narrower head, which is more strongly retracted behind, and the longer, rather finely and equally punctured elytra. It is uncertain whether the 1st (visible) abdominal segment is black at the base, as it is concealed by the elytra in the single example examined (ex *Bernhauer*).

Kulu (*Rost*).

593. *Pæderus tibetanus*.

Pæderus tibetanus Cam., Ann. Mag. Nat. Hist. (10) ii, 1928, p. 560.

Shining; head black, thorax and scutellum red, elytra constricted at the base, blue; abdomen red, the 1st (visible) and last two segments black. Antennæ and legs reddish-testaceous, the apex of the femora rather broadly infusate. Length 9 mm.

Readily distinguished by the black first abdominal segment, with short elytra contracted at the base. Head scarcely differing in shape from *P. litoralis* Gr., but otherwise quite different. Head as broad as the thorax, the post-ocular region gently rounded and retracted to the neck, at the sides with some moderate, scattered punctures. Antennæ with all the joints distinctly longer than broad. Thorax a little longer than broad, the sides not margined, gently rounded in front, straighter and more retracted behind, sparingly and irregularly punctured. Elytra scarcely as long as the thorax, narrowed at the base and widened behind, closely and roughly punctured. Abdomen finely, moderately closely punctured.

♂: posterior margin of the 4th ventral segment slightly impressed; the 5th broadly impressed throughout nearly the whole length, the impressions more densely punctured and pubescent than the rest of the surface; 6th with a deep narrow excision with rounded apex. Unique.

Tibet: Rongshar Valley, alt. 9500 feet, 25. vi. 24 (*Hingston*).

594. *Pæderus nepalensis*.

Pæderus nepalensis Bernh., Ent. Blätt. vii, 1911, p. 60.

Red, the elytra obscurely blue, the apex of abdomen obscurely reddish, mandibles, palpi, the base of the 3rd dorsal abdominal segment, sternum. and legs (including the coxæ) black; winged, shining, the head oblong-orbulate, the thorax strongly narrowed behind. Length 9 mm.

Very distinct by the colour, the size and slender build. Yellowish-red, the last two abdominal segments a little darker,

the elytra dark blue, the mandibles, palpi, antennæ, sternum, legs, and coxæ black, the base of the 3rd (1st visible) abdominal segment narrowly blackish. Head almost as broad as the thorax, somewhat rounded, but longer than broad, truncate in front, narrowed and rounded behind the eyes, the temples about twice as long as their diameter seen from above; the upper surface sparingly covered with fine punctures of variable size, but closer near and behind the eyes, pubescence yellow, rather thick and with a number of black setæ as on the rest of the body. Antennæ long and slender, the 3rd joint almost three times as long as the oblong 2nd joint, the following gradually decreasing in length, the penultimate twice as long as broad. Thorax narrower than the elytra, about a third longer than broad, at the first third strongly dilated and rounded, strongly narrowed behind, finely and sparingly punctured, impunctate along the middle. Elytra about one-third longer than the thorax, parallel, more strongly and closely punctured than the fore-parts.

Nepal: Soondrijal. In the Indian Museum and Bernhauer Collections (ex *Bernhauer*).

The male which I identify as this species has a deep parallel-sided excision (the apex of which is rounded and the margins bordered) of the 6th ventral segment; the 5th scarcely perceptibly emarginate.

595. *Pæderus capillaris*.

Pæderus capillaris Fauv., Rev. d'Ent. xiv, 1895, p. 231.

Facies of *P. baudii* Fairm., but a little smaller and distinctly more slender, the elytra smaller, the colour different and the whole insect covered with very long black setæ; apterous, black, the elytra and legs pitchy-black, mandibles, antennæ, sternum, and tarsi obscure red; base and last joint of the antennæ, palpi, and 2nd to 5th abdominal segments, the coxæ and base of the femora (the posterior more broadly) reddish-testaceous; thorax red, the scutellum and extreme base of the elytra pitchy or reddish; antennæ stout, as long as the head and thorax, verticillate-pilose; head narrow, oval, eyes small, puncturation scattered; thorax strongly convex, oviform, strongly narrowed towards the base, with a few punctures, seriate on the disc; elytra small, triangular, at the base half as wide as the thorax, with a few rather strongly asperate punctures; abdomen enlarged from the base to the 5th segment, with a few moderate punctures.

♂: 7th [6th] ventral segment with deep bordered excision, with a fine keel outside the margin, a little broader before the rounded base.

Burma: Carin Asciuii Ghécu, 1400 to 1500 metres, iii., iv. (*L. Fea*) (ex *Fauvel*).

596. *Pæderus distinctus*, sp. n.

Head, thorax, and first three abdominal segments red, the last three black; elytra blue-black, scutellum red. Antennæ reddish-yellow, the last two joints blackish. Legs reddish-yellow, the apex of the posterior femora infusate. Length 8.2 mm.

From all the species with red head and thorax distinguished by the abdomen having only the first three segments red, the following (except for the extreme base of the 4th) being black. Head roundish, the post-ocular region rounded and gradually retracted to the neck, with a few black setæ. Antennæ with all the joints longer than broad. Thorax longer than broad, the sides rounded in front, from about the middle backwards retracted and very slightly emarginate, with a few long black setæ. Elytra ((measured from the base) as long as the thorax, scarcely widened behind, moderately finely punctured, much more closely towards the sides than towards the suture, with very short, scanty whitish pubescence and long black setæ. Abdomen finely punctured at the base of the anterior segments, otherwise practically impunctate, with some long black setæ, especially towards the sides, otherwise glabrous.

Darjeeling; Lepchajagat, alt. 7000 feet, 12. ix. 29 (*Gardner*).

597. *Pæderus graciosus*.

Pæderus graciosus Fauv., Rev. d'Ent. xxiii, 1904, p. 54.

Elongate, parallel, shining red, the elytra blue, last two abdominal segments black. Antennæ black, the first three and the last two joints reddish-testaceous. Legs reddish-testaceous, the apex of the anterior femora and tibiæ black; all the tarsi infusate. Length 7.5 mm.

Head suborbicular, the base somewhat truncate, a little broader than the thorax, rather closely punctured except along a narrow median space. Thorax oval, a little longer than broad, sparingly subserially punctured. Elytra as long as the thorax, parallel, closely, rugosely punctured. Abdomen rather closely punctured. The whole insect is sparingly covered with black setæ.

Nagargali. Belgaum.

598. *Pæderus nigripennis*. (Fig. 14.)

Pæderus nigripennis Cam., Trans. Ent. Soc. Lond. 1924, p. 180.

Red, shining, the elytra and last two abdominal segments black; antennæ, palpi, and legs testaceous, the intermediate joints of the former infusate. Length 7 mm.

Very similar in build to *P. baudii* Fairm., but smaller and

narrower and differently coloured. Head red, transverse, suborbicular, as broad as the thorax, post-ocular area broadly rounded, with fine, sparing, setiferous punctures, mandibles red; antennæ rather short, the 3rd joint longer than the 2nd, 4th to 10th joints all slightly longer than broad, gradually decreasing in length, the 11th longer than the 10th. Thorax about as broad as long, the sides not margined, finely and sparingly punctured and with rather long black setæ. Scutellum red. Elytra black, about as long as the thorax, very slightly widened behind, coarsely, closely, rugosely punctured and with

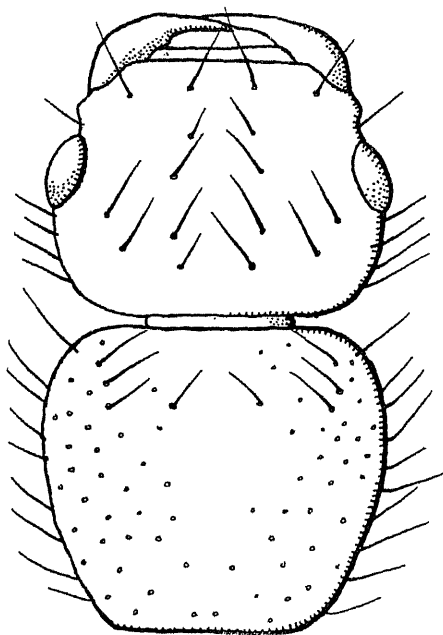


Fig. 14.—*Pæderus nigripennis*, head and thorax.

erect and semi-erect black setæ, wings present. Abdomen very finely and sparingly punctured, with long black semi-erect setæ.

Siwaliks : Kheri Rau. Mussoorie ; Kempti Falls.

599. *Pæderus amplicollis*.

Pæderus amplicollis Kr.*, Arch. Naturg. xxv, 1859, i, p. 150.

Pæderus amplicollis var. *nigrescens* Cam., Ceylon Journ. Sci. xiv, 1927, p. 115.

Elongate, parallel, shining, red, the short elytra blue, the last two abdominal segments black. Antennæ, palpi, and legs reddish-yellow. Length 12.5 mm.

Var. *nigrescens*.

Only differs from the type form in the head and thorax being pitchy-black.

The largest of the Indian species. Head suborbicular, about as wide as the thorax, eyes small; within the antennal tubercle on each side, impressed; the front smooth, elsewhere with larger and smaller, rather sparing setiferous punctures. Antennæ slender, reaching the base of the thorax, all the joints much longer than broad. Thorax distinctly longer than broad, convex, a little narrower behind, smooth along the middle, elsewhere with a few fine setiferous punctures. Elytra a little shorter than the thorax, a little narrowed at the base and slightly widened behind, rather closely and rather strongly, roughly punctured, with a fine yellowish pubescence and long black setæ. Abdomen elongate, parallel, finely, sparingly punctured, setiferous.

♂: 6th ventral segment with deep narrow parallel-sided excision.

Ceylon: Nuwara Eliya.

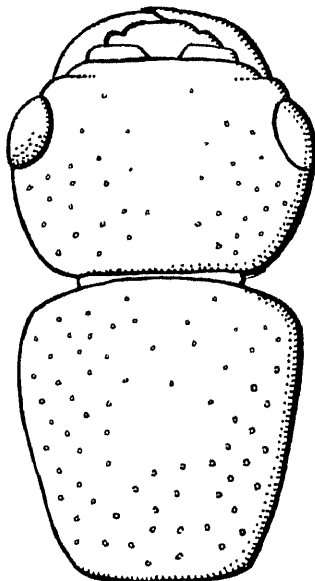


Fig. 15.—*Pæderus andrewesi*, head and thorax.

600. *Pæderus andrewesi*. (Fig. 15.)

Pæderus andrewesi Fauv.*, Rev. d'Ent. xxiii, 1904, p. 53.

Shining red, the short elytra and last two segments of the abdomen black. Antennæ dark, the first two and last four

joints reddish-testaceous. Palpi reddish-testaceous. Legs brown, the tarsi and base of the femora broadly reddish-yellow. Length 9 to 10 mm.

Almost identical in build with the European *P. baudii* Fairm., except that the elytra are shorter. Head subquadrate, a little narrower than the thorax, the posterior angles broadly rounded, the eyes small, along the middle with rather broad impunctate area, elsewhere with a rather fine sparing, setiferous puncturation. Antennæ slender, setose, all the joints longer than broad. Thorax convex, a little longer than broad, the sides almost straight, more retracted behind, on each side of the middle with a row of four or five setiferous punctures, at the sides with a few more. Elytra about half as long as, and narrower than, the thorax, narrower at the base and wider behind, with a few asperate setiferous punctures. Abdomen elongate, slightly widened behind the middle, finely and sparingly punctured, the punctures each with a long black seta.

♂: 6th ventral segment with deep narrow parallel-sided excision, the edges of the excision strongly bordered.

Nilgiri Hills (*Andrewes*).

601. *Pæderus setifer*.

Pæderus setifer Cam., Trans. Ent. Soc. Lond. 1914, p. 538.

Apterous, red, elytra blue, last two abdominal segments black. Antennæ, palpi, and legs entirely testaceous. Length 10 mm.

Very near *P. andrewesi* Fauv., but differs by the longer, metallic blue elytra, the entirely testaceous legs and antennæ, and the more numerous erect setæ.

Head red, slightly transverse with rounded posterior angles, scarcely as wide as the thorax, very sparingly punctured, finely setose. Antennæ with all the joints elongate, gradually decreasing in length from the third. Thorax red, longer than broad, rounded in front, narrowed posteriorly, not margined at the sides, very sparingly punctured, finely setose. Elytra scarcely as long as the thorax, narrowed at the shoulders and widened behind, rather coarsely and somewhat asperately punctured, with well marked erect setæ. Abdomen elongate, cylindrical, finely and rather sparingly punctured, pubescence rather long, partly erect.

♂: 6th ventral segment with moderately broad, deep excision, the sides of which are parallel.

Ceylon: Madulsima. British Museum Collection.

602. *Pæderus taprobanus*, sp. n.

This insect, which is perhaps a variety of *P. setifer*, differs from that species in the entirely black abdomen and the darker apex of the posterior femora; in other respects they appear identical.

Ceylon: Urugalla.

603. *Pæderus aliiiceps*.

Pæderus aliiiceps Cam., Trans. Ent. Soc. Lond. 1914, p. 538.

Apterous, red, elytra very short, blue; abdomen black or reddish-brown. Antennæ, palpi, and legs testaceous, the apex of the first sometimes a little infuscate. Length 8 mm.

Allied to *P. capillaris* Fauv., but differs from it by the red head.

Head large, suborbicular, transverse, red, very sparingly punctured. Antennæ moderate, 2nd joint shorter than the 1st and 3rd, all the joints longer than broad, gradually decreasing in length. Thorax red, a little broader than the head, oval-oblong, a little narrower behind than in front, finely and very sparingly punctured. Scutellum red. Elytra about half the length of the thorax, bright blue, narrowed at the shoulders and widened posteriorly, puncturation coarse, sparing, and somewhat asperate, sparingly furnished with black setæ. Abdomen black, or reddish-brown, finely and very sparingly punctured, sparingly setose.

♂: 6th ventral segment deeply and narrowly incised; 3rd slightly, 4th and 5th deeply impressed in the middle line.

Manipur. British Museum Collection.

This and the following species form a group at once recognized by the strongly contracted base of the elytra, and the flattened abdomen which is widened gradually behind and then narrowed to the apex.

604. *Pæderus diversiceps*, sp. n.

Very similar to *P. aliiiceps*, but differing as follows: the head is less orbicular, more quadrate, but with broadly rounded posterior angles and with more numerous setiferous punctures; the intermediate joints of the antennæ are brown; the thorax is broader, the sides less rounded in front, the anterior angles more indicated, the setiferous punctures more numerous; the elytra are scarcely half the length of the thorax, black with the scutellum and the base narrowly reddish; the abdomen is more punctured and the setæ more numerous; the legs are brown, the tarsi and the bases of the femora rather broadly reddish-testaceous. Length 8 mm.

Nilgiri Hills.

605. *Pæderus hingstoni*.

Pæderus hingstoni Cam., Ann. Mag. Nat. Hist. (10) ii, 1928, p. 561.

Shining; head and thorax red, elytra blue, constricted at the base, abdomen red, the last two segments black. Antennæ and legs reddish-testaceous. Length 6·75 to 7 mm.

Readily recognized by the colour and short elytra contracted at the base and dilated towards the apex. In build somewhat resembling *P. brevipennis* Lac., but a little larger, the post-ocular region longer and more gradually retracted to the neck, thorax a little longer and narrower, the sides not bordered, elytra more coarsely, less closely more irregularly punctured, more contracted at the base. Head slightly broader than long, the post-ocular region slightly rounded and gradually and evenly retracted to the neck, moderately finely and rather sparingly punctured. Antennæ with all the joints distinctly longer than broad. Thorax scarcely longer than broad, a little broader than the head, the sides evenly rounded, more retracted behind with some rather fine scattered punctures. Elytra scarcely as long as the thorax, narrow at the base and widened behind, coarsely and irregularly punctured. Abdomen finely and rather sparingly punctured and pubescent, finely coriaceous.

♂: 3rd ventral segment scarcely, 4th and 5th broadly superficially impressed in the middle, and there more closely punctured and pubescent; 6th narrowly deeply excised, the apex of the excision rounded.

Sikkim: Darjeeling, alt. 7000 feet, 11–20. iii. 1924 (several examples under stones near a dry stream).

606. *Pæderus nigerrimus*.

Pæderus (*Pseudopæderus*) *nigerrimus* Bernh., W. Z. B. lxx, 1915, p. 137.

Robust, cylindrical, very shining black, the greater part of the 7th and whole of the 8th abdominal segment reddish. Elytra very short. Antennæ pitchy, the last joints testaceous. Legs pitchy, the apex of the tibiæ and the tarsi yellow. Length 6·5 to 7·5 mm.

Head narrower than the thorax, transverse, the eyes small, the post-ocular region rounded with the base, impressed on either side within the antennal tubercles, on each side of the disc with a puncture, otherwise almost impunctate. Antennæ pilose, the 3rd joint almost twice as long as the 2nd, the penultimate a little longer than broad. Thorax convex, a little longer than broad; the sides gently rounded from base to apex, but more retracted behind, at the sides and base with a few fine punctures.

Elytra about one-fourth as long as, and much narrower than, the thorax, slightly widened behind, along the lateral margin slightly, longitudinally impressed, sparingly punctured. Abdomen thick, cylindrical, very finely bordered, each segment with a transverse row of four setiferous punctures, otherwise practically impunctate; ground sculpture very fine, transverse. Almost glabrous.

Madura; Chambaganoor. Kodai Kanal.

This species with the following form a group to which Bernhauer has given the name *Pseudopæderus*; it is distinguished by the convex build, short, transverse head, convex thorax, very short elytra and stout cylindrical very finely bordered abdomen.

607. *Pæderus pallidus*.

Pæderus (*Pseudopæderus*) *pallidus* Bernh., W. Z. B. lxxv, 1915, p. 138.

In most points very similar to the preceding, but smaller and of uniform bright reddish-yellow colour. The head is not so short, but in comparison with the elytra broader; on the posterior half are a few deeper punctures and also several fine ones; the thorax is longer, the elytra not so short, narrower and with more distinct humeral angles, with rather close, coarse, and deep setiferous punctures, the setæ black. The abdomen presents no differences.

Length 5.5 to 6 mm.

Madura; Chambaganoor (ex *Bernhauer*).

Genus DIBELONETES Sahlb.

Dibelonetes Sahlb., Act. Soc. Fenn. ii, 1844, p. 791; Sharp, B. C.-A. i, 2, 1882-87 (1886) p. 601; Casey, Trans. Ac. St. Louis, xv, 1905, p. 235.

Sunides Motsch., Bull. Mosc. xxxi, 1858, ii, p. 638, tab. i, fig. c. *Sunius* (*spurii*) Er., Gen. Spec. Staph. 1839-40, p. 645 (ex parte).

The only difference between this genus and *Stilicopsis* is that the teeth of the labrum are much longer and there is often a small tooth towards each side. The species are chiefly found in tropical America, but a few have been described from the Oriental Region.

608. *Dibelonetes indicus*, sp. n.

Pale ferruginous-red, slightly shining, the elytra yellow, at the middle of the sides with an obscure round dark spot not extending to the epipleuron. Antennæ, palpi, and legs yellow. Length 3 mm.

Scarcely differing in build from the European *Astenus angustatus* Payk., but with smaller eyes. Head scarcely

longer than broad, broader than the thorax, the eyes moderate, the posterior angles broadly rounded, the sculpture reticulate-umbilicate. Antennæ moderate, the penultimate joints distinctly longer than broad. Thorax rather narrow, a little longer than broad, narrowed behind, the anterior angles broadly rounded, the sculpture as on the head, the sides without long setæ (? perhaps broken off). Elytra a little longer and broader than the thorax, moderately coarsely, closely, subrugosely punctured, finely yellow pubescent, the sides without setæ. Abdomen finely, moderately closely punctured, more sparingly behind, finely yellow pubescent. Anal styles short, dentiform.

♂: 6th ventral segment with broad, rather deep arcuate excision; 5th with moderately broad, shallow arcuate excision.

India (without further indication).

Genus *ASTENUS* Steph.

Astenus Steph., Ill. Brit. Ent. Mand. v, 1832, p. 275; Boisd. et Lacord., Faun. Ent. Paris, i, 1835, p. 435; Fauv., Rev. d'Ent. viii, 1889, p. 254; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 539.

Sunius Er., Käf. Mark. Brand. i, 1837-39, p. 523; id., Gen. Spec. Staph. 1839-40, p. 637; Lacord., Gen. Col. ii, 1854, p. 99; Kraatz, Naturg. Ins. Deutsch. ii, 1856-58, p. 720; Jacq. du Val, Gen. Col. d'Eur. ii, 1857-59, p. 48; Thoms., Skand. Col. ii, 1860, p. 209; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 292; id., Rev. d'Ent. xvii, 1897, pp. 49, 272; Muls. et Rey, Ann. Soc. Linn. Lyon, 1877, p. 269; Sharp, Trans. Ent. Soc. Lond. 1876, p. 289; id., B. C.-A. i, 2, 1882-87 (1886) p. 596; Lynch, Bol. Ac. Nac. Cord. 1884, p. 297; Casey, Trans. Ac. St. Louis, xv, 1905, p. 235.

Subgen. *Astenognathus* Reitter, Faun. Germ. ii, 1909, p. 150.

Subgen. *Astenus*, s. str., Reitter, Faun. Germ. ii, 1909, p. 151.

Subgen. *Eurysunius* Reitter, Faun. Germ. ii, 1909, p. 149.

Subgen. *Mecognathus* Woll., Ins. Mad. 1854, p. 595, pl. 13, f. 8; Kraatz, Naturg. Ins. Deutsch. ii, 1856-58, p. 666. *Sunogaster* Reitt., l. c. p. 151.

Subgen. *Neognathus* Sharp, Trans. Ent. Soc. Lond. 1874, p. 69.

Narrow, elongate, active species, black, or black with reddish-yellow markings, or entirely reddish-testaceous or reddish-testaceous with black markings. The head is rather large as compared with the thorax, more or less oblong, the sculpture of these parts always reticulate-umbilicate. Head more or less produced before the eyes and deeply grooved on each side for the reception of the 1st antennal joint, exserted, strongly constricted behind, the neck narrow, about a fourth as wide; gular sutures fused along the middle except for a short distance in front, where they diverge and enclose the small triangular submentum. Antennæ filiform, 11-jointed. Labrum short and broad, the front border tri-emarginate, the lateral emarginations broad and shallow, the median deeper and narrower, its fundus with two little teeth. Mandibles

long, very slender, curved, and pointed, about the middle of the inner border with a long, sharp, slender tooth, at its base behind with one or two much smaller ones. Inner lobe of the maxilla short, its apex densely ciliate; outer lobe short and broad, its apical border densely ciliate. Maxillary palpi with the 1st joint very small, 2nd elongate, gradually thickened towards the apex, 3rd elongate, clavate, as long as the preceding, 4th minute, subulate, scarcely visible. Mentum short, transverse, the sides parallel. Labium deeply and broadly emarginate in front. Tongue consisting of two small, rounded, and completely separated lobes. Paraglossæ densely ciliate and extending a little beyond the tongue. Labial palpi 3-jointed, the 1st joint small and short, the 2nd oval, the 3rd small and subulate, but distinctly visible. Prosternum well developed, keeled along the middle, dilated behind and meeting the apex of the triangular epimera; the spiracle concealed. Mesosternum narrowed to a neck in front, its process very short, bluntly pointed, the coxæ almost contiguous. Metasternum without process, emarginate before the approximate coxæ, narrowly truncate between them. Ventral surface of the abdomen keeled at the base in the middle; upper surface margined laterally; apex with two more or less conspicuous styles. Anterior coxæ elongate, prominent; the middle more or less globose; the posterior conical. All the tibiæ finely ciliate. Tarsi 5-jointed, the 1st joint always longer than the 2nd, the following decreasing in length, the 4th bilobed, the lobes densely ciliate, the 5th short, claws short, slightly curved.

The genus is found throughout the world under stones, in debris, etc.; a few appear to be associated with ants. The testaceous species present some difficulty in determination, as the elytral spot is not infrequently absent in those which typically possess it, whilst conversely one of our immaculate species has a maculate variety. Some of the dark forms again tend to become brown, and this apparently is not always due to immaturity.

Key to the Species.

- | | |
|--|--------------------------------|
| 1. Species dark, entirely or in greater part black or brown..... | 2. |
| Species entirely or in greater part reddish-testaceous | 17. |
| 2. Abdomen with the first four (visible) segments red, the following black. Elytra black. Thorax with fine longitudinal rugæ | <i>gratus</i> , sp. n., p. 72. |
| Abdomen black or brown, the posterior margins of the segments often more or less rufescent..... | 3. |

3. Legs entirely testaceous 6.
 Legs testaceous, the apex of the femora
 black or blackish 4.
4. Elytra black with the posterior margin
 narrowly and sharply yellow 5.
 Elytra black, with a small red spot on
 each against the posterior part of the
 suture *biplagiatus* Motsch., p. 68.
5. Larger (5 to 5·5 mm.). Antennæ longer;
 eyes less prominent, anterior abdominal
 segments much more strongly punctured
 *birmanus* Fauv., p. 72.
 Smaller (4 mm.). Antennæ shorter;
 eyes more prominent, anterior abdominal
 segments more finely punctured .
 *gratellus* Fauv., p. 72.
6. Elytra uniformly black. 7.
 Elytra black, with reddish or reddish-
 testaceous markings, or reddish with
 black markings 8.
7. Larger (7 mm.). Head obliquely retracted
 to the neck, the post-ocular region
 conical; elytra scarcely setiferous ... *ophis* Fauv., p. 68.
 Smaller (5 mm.). Head rounded and
 narrowed to the neck, post-ocular
 region not conical; elytra setiferous... *bispinus* Motsch., p. 70.
8. Postero-internal area of the elytra from
 the middle of the suture to the postero-
 external angle testaceous *leptocerus* Epp., p. 75.
 Elytra otherwise marked 9.
9. Elytra reddish-testaceous, more or less
 extensively marked with black 10.
 Elytra otherwise 12.
10. Elytra each with an elongate spot much
 narrowed in front, behind extending
 laterally on to the epipleura; suture
 rather broadly black *marginalis*, sp. n., p. 77.
 11.
11. The elongate spot connected to the
 middle of the suture by a fine transverse
 black line; thorax broader, sculpture
 finer; abdomen more finely punctured. *H-signatus* Cum., p. 78.
 The elongate spot not so connected;
 thorax narrower, sculpture coarser;
 abdomen less finely punctured [p. 76.
 *pulchripennis*, sp. n.,
12. Elytra with the sutural margin broadly,
 13.
 14.
13. Larger (6·5 mm.). Head longer, the
 post-ocular region nearly twice as long
 as the eye *suturalis*, sp. n., p. 69.
 Smaller (5 mm.). Head shorter, the
 post-ocular region not much longer than
 the eye *andrewesi*, sp. n., p. 71.
14. Elytra with the humeral angle and
 posterior margin reddish-testaceous ... *simlaensis*, sp. n., p. 74.
 Elytra with the posterior margin only
 reddish-testaceous 15.



15. Thorax with fine longitudinal rugæ. A very variable species, in well-coloured examples black, with the posterior margin of the elytra narrowly reddish-testaceous, in others entirely castaneous, the posterior margins and sutural region more or less extensively lighter. Thorax with normal reticulate-umbilicate sculpture.....
16. Elytra more coarsely and less closely punctured, the posterior margin sharply and distinctly reddish-yellow.....
17. Elytra more finely and more closely punctured, the posterior margin more narrowly and obscurely.....
18. Elytra with the posterior half of the suture narrowly blackish, without black setæ at the sides.....
19. Elytra otherwise marked or concolorous.
20. Abdomen entirely reddish-testaceous or brown.....
21. Abdomen reddish-testaceous, the 7th and 8th segments more or less black or pitchy.....
22. Abdomen entirely brown.....
23. Abdomen entirely reddish-testaceous...
24. Larger (4 mm.). Penultimate joints of antennæ about three times as long as broad; sides of the elytra with several long black setæ.....
25. Smaller (3 mm.). Penultimate joints of the antennæ a little longer than broad; sides of the elytra without black setæ.....
26. Post-ocular region not coarctate with the base; head more subquadrate; elytra scarcely longer than the thorax; colour more reddish.....
27. Post-ocular region coarctate with the base; head more suborbicular; elytra a little longer than the thorax; colour yellower.....
28. 7th and 8th abdominal segments black, their posterior margin scarcely lighter; elytra usually with dark spot on each.
29. 7th and 8th abdominal segments blackish, their posterior margin more or less broadly lighter.....
30. Sculpture of head and thorax of normal size.....
31. Sculpture of head and thorax notably larger than usual.....
32. Sides of the elytra with black setæ either outstanding or decumbent.....
33. Sides of the elytra without black setæ ..
34. Sides of the elytra with long black outstanding setæ.....
35. Sides of the elytra with short black decumbent setæ.....
- varians*, sp. n., p. 78.
- 16.
- hindostanus* Cam., p. 81.
- obscurus*, sp. n., p. 82.
- taprobanus* Cam., p. 85.
- 18.
- 19.
22. [p. 87.
- semibrunneus*, sp. n.,
- 20.
- flavipennis*, sp. n., p. 80.
- 21.
- concolor* Kr., p. 88.
- flavus* Kr., p. 88.
- 23.
- 24.
- maculipennis* Kr., p. 83.
- terminalis*, sp. n., p. 84.
- 25.
- 29.
- 26.
- 28.

26. Elytra with a black spot on the disc ; smaller (3·5 mm) and narrower *kraatzii* Bernh., p. 89.
 Elytra immaculate ; larger (3·75 to 4 mm.) and more robust 27.
 27. Head longer ; 6th ventral segment yellow. *setiferus*, sp. n., p. 90.
 Head suborbicular ; 6th ventral segment black *peraffinis*, sp. n., p. 90.
 28. Larger (5 mm.) and more robust ; post-ocular region parallel for a short distance, then broadly rounded to the base *nilgiriensis*, sp. n., p. 82.
 Smaller (4 mm) and narrower ; post-ocular with the base *gracilentus* Fauv., p. 84.
 29. Sides of y two long black setæ ; base of head truncate, the posterior angles broadly rounded. Elytra with or without black spot *melanurus* Küst., p. 86.
 Sides of thorax with five long black setæ. *indicus* Kr., p. 88.

609. *Astenus ophis*.

Astenus ophis Fauv., Rev. d'Ent. xiv, 1895, p. 222.

Near *A. biplagiatus* Motsch., but shorter, the palpi, antennæ, and legs yellow, elytra immaculate, with scarcely any black setæ, the pubescence yellow and thicker at the sides ; antennæ scarcely reddish from the middle to the apex, all the joints shorter ; the front less distinctly bi-impressed, the eyes scarcely more prominent, the post-ocular region conical, strongly, obliquely narrowed to the neck ; thorax narrower, less dilated, narrowed almost from the middle to the apex ; elytra broader, twice as wide as the thorax, scarcely more finely punctured than *biplagiatus*. Length 6·75 to 7 mm.

Sexual differences unknown.

Burma : Carin Asciuii Ghécu, alt. 1400 to 1500 metres. Also in Java (ex *Fauvel*).

610. *Astenus biplagiatus*.

Sumius biplagiatus Motsch., Bull. Mosc. xxxi, 1858, i, p. 636.

Black, scarcely shining, the elytra at the posterior part of the suture each with a small red spot. Antennæ, palpi, and legs yellow, the apex of the femora often a little infuscate. Length 6·5 to 7 mm.

Near *A. bispinus*, but larger and more robust, the elytra maculate, the head more widened before the eyes, the narrow thorax more angulate in front, the sculpture of the head coarser, that of the thorax finer than in *bispinus* ; elytra less rugose ; abdomen more closely punctured.

♂ : 6th ventral segment with acute triangular emargination (broader than in *bispinus*) with rounded apex ; 5th broadly and slightly emarginate, the emargination furnished with close, black, and moderately long pectinations (but shorter than in *bispinus*), without impression in front.

Burma : Tavoy. Also in Java and Sumatra.

611. *Astenus suturalis*, sp. n. (Fig. 16.)

Elongate, black, the fore-parts scarcely, the abdomen a little shining, the elytra with the sutural border from the apex of the scutellum and the posterior margin (more narrowly) blood-red, the suture itself black. Antennæ, palpi, and legs yellow. Length 6.5 mm.

Near *A. biplagiatus* Motsch., but with differently marked elytra, the legs entirely yellow, the head longer and narrower, the post-ocular region straighter and more obliquely retracted

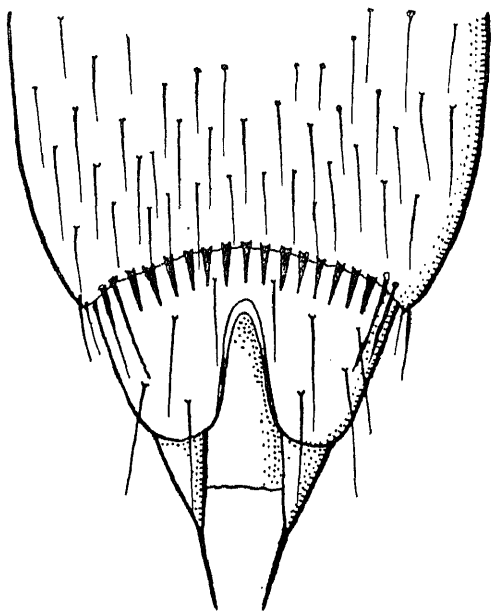


Fig. 16.—*Astenus suturalis*, apex of abdomen of ♂ ; ventral surface.

to the neck, the sculpture of the whole insect finer, the antennæ a little shorter.

♂: 6th ventral segment with very deep, narrow, parallel-sided excision, the apex rounded, the sides bordered; 5th with the whole posterior border emarginate and furnished with fifteen long, pointed, black spines, on each side external to the spines with two long black setæ, in front of the emargination superficially impressed, the impression a little more coarsely and asperately punctured than the rest of the surface.

Chakrata district: Mohna, alt. 5000 feet.

612. *Astenus bispinus*. (Fig. 17.)

Sunius bispinus Motsch., Bull. Mosc. xxxi, 1858, ii, p. 636.

Sunius major Kr., Arch. Naturg. xxv, 1859, i, p. 146.

Entirely black, the elytra and abdomen more shining than the head and thorax. Antennæ, palpi, and legs yellow. Length 5 mm.

Head distinctly broader than the thorax, the post-ocular region slightly rounded and rather strongly retracted to the neck, with the usual reticulate-umbilicate sculpture. Antennæ long and slender, all the joints much longer than broad. Thorax narrow, oval, but little widened in front, the sides with four or five black setæ, the sculpture much coarser than on the head. Elytra a little longer and distinctly broader than the

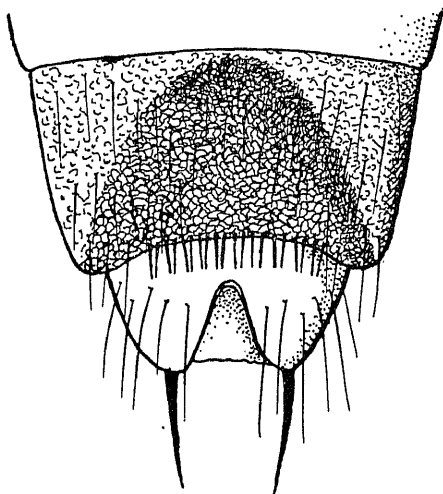


Fig. 17.—*Astenus bispinus*, apex of abdomen of ♂; ventral surface.

thorax, rather strongly, closely rugosely punctured, the sides with four or five moderate setæ. Abdomen rather closely and moderately finely punctured in front, more sparingly and finely behind. Anal styles testaceous. The whole insect with distinct yellow pubescence, especially on the elytra and abdomen.

♂: 6th ventral segment with rather deep acute excision with apex rounded and bordered edges; 5th with a wide area of the posterior margin closely set with long and strong black pectinations, the surface in front broadly impressed throughout the length of the segment and densely coriaceous and glabrous.

Ceylon: Kandy. India: Nilgiri Hills. Burma. Also in Sumatra and Annam.

613. *Astenus andrewesi*, sp. n. (Fig. 18.) (Plate I. fig. 6.)

Elongate, black, the fore-parts scarcely, the abdomen a little shining, the elytra with the sutural margin almost from the base and the posterior margin (more narrowly) yellowish-red, the suture itself black. Antennæ, palpi, and legs yellow. Length 5 mm.

Of the build of *A. bispinus* Motsch., but differs in the colour of the elytra, the head a little longer and narrower, the post-ocular region longer and straighter, the thorax a little wider in front, the sculpture of the fore-parts much finer. The antennæ

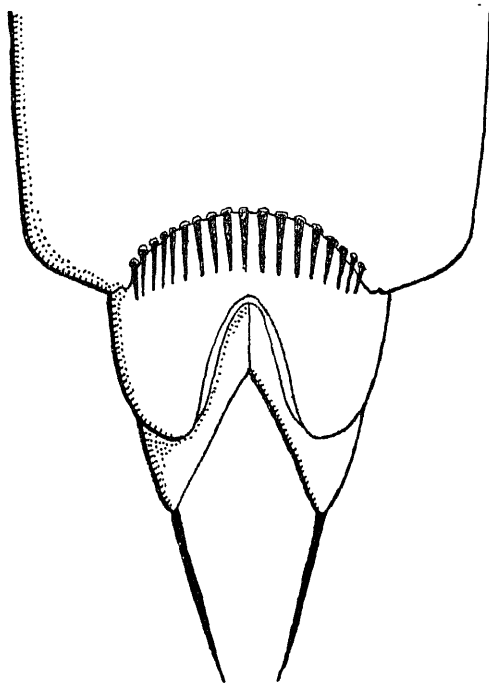


Fig. 18.—*Astenus andrewesi*, apex of abdomen of ♂;
ventral surface.

are similarly constructed. From *A. suturalis* it differs in the shorter head and more rounded post-ocular region, shorter antennæ, the more yellowish-red colour of the elytral markings, and the sutural fascia extending almost to the base; the sculpture of the fore-parts is a little finer.

♂ : 6th ventral segment with acute triangular excision, the sides bordered, 5th emarginate for nearly the whole breadth and furnished with about sixteen long, sharp, black

spines, very slightly impressed in front, the impression sparingly and asperately punctured.

Nilgiri Hills (*H. L. Andrewes*).

614. *Astenus gratus*, sp. n.

Head and thorax moderately shining; elytra and abdomen shining. Head and last abdominal segment pitchy; elytra and 7th abdominal segment black; thorax brown; first four visible segments of abdomen red. Antennæ testaceous, the 3rd and 4th joints infuscate. Legs testaceous. Length 5 mm.

Near *A. gratellus* Fauv., but differing in the colour, in the head being more obliquely narrowed to the neck, the sculpture of the thorax longitudinally striate, the reticulate sculpture very definitely confluent longitudinally, the umbilicate punctures scarcely visible. In other respects similar to *gratellus*. From *A. varians*, the only other species in our fauna with longitudinally rugose thorax, it differs in the post-ocular region being more obliquely narrowed and less rounded, the elytra shorter and quite black in colour and differently coloured abdomen.

♂: unknown.

Dehra Dun.

615. *Astenus birmanus*.

Astenus birmanus Fauv., Rev. d'Ent. xiv, 1895, p. 222.

Near *A. gratellus* Fauv. Similarly coloured, but larger, the antennæ rather longer, the eyes less prominent, the temples from the eyes to the neck arcuately rounded with the base, not coarctate; thorax more strongly punctured, scarcely constricted in front, but from the anterior third to the apex gradually and strongly narrowed, less narrowed at the base; elytra less convex, a little more strongly punctured; abdomen less narrowed at the base, the 2nd to 5th segments almost twice as strongly punctured, half as thickly covered with fulvous pubescence; the anal spines longer and straighter.

♂: 6th ventral segment a little emarginate at the apex, triangularly impressed behind it, the impression smooth, the margins finely asperate; 7th rather deeply, arcuately incised, smooth behind the incision. Length 5 to 5½ mm.

Burma: Carin Asciuii Ghécu, alt. 1400 to 1500 metres (*Fea*) (ex *Fauvel*).

616. *Astenus gratellus*. (Fig. 19.)

Sunius gratellus Fauv., Ann. Mus. Civ. Gen. xv, 1879-80, p. 83;

id., Rev. d'Ent. xiv, 1895, p. 222.

Sunius pulchellus Kr., Arch. Naturg. xxv, 1859, i, p. 147 (præocc.).

Elongate, narrow; the head and thorax scarcely, the elytra and abdomen distinctly shining. Head pitchy, thorax

reddish-brown, elytra black, the posterior margin sharply and distinctly yellow. Abdomen black, the posterior margins of the first three (visible) and the last segments broadly reddish-yellow. Antennæ, palpi, and legs yellow, the apex of the femora black. Length 4.75 mm.

Head a little broader than the thorax, the post-ocular regions coarctate, about twice as long as the eye, with close, rather fine, umbilicate-reticulate sculpture. Antennæ long and slender, all the joints much longer than broad. Thorax on each side with five black setæ, rather strongly dilated and rounded in front and then narrowed to the neck, the sides behind almost straightly retracted to the base, the sculpture

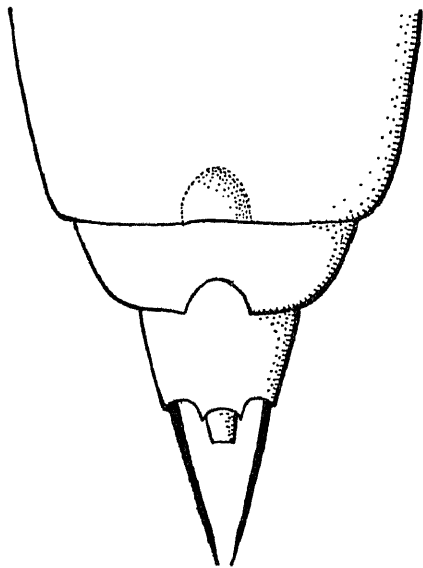


Fig. 19.—*Astenus gratellus*, apex of abdomen of ♂;
ventral surface.

coarser than that of the head, but of similar character. Elytra broader but scarcely longer than the thorax, closely and rather strongly punctured. Abdomen a little widened behind, the base of the anterior segments closely and moderately coarsely punctured, the posterior much more finely and sparingly. Anal styles rather long, decurved.

♂: 6th ventral segment with a moderately broad and deep arcuate excision; 5th very slightly emarginate, in front of the emargination with a smooth impression.

Ceylon: Colombo; Kandy. India: Nilgiri Hills; Bombay; Dehra Dun. Burma: Tenasserim. Also in Sumatra, Java, Annam, and Tonkin.

617. *Astenus simlaensis*, sp. n. (Fig. 20.)

Narrow, elongate, black, subopaque, the elytra and abdomen a little shining, the former with the humeral angle and the apical margin moderately broadly reddish-testaceous. Antennæ, palpi, and legs yellow. Length 3.5 mm.

Very near the European *A. pulchellus* Heer and only differing in the following respects: the eyes are a little larger and the antennæ a little shorter, the sculpture of the head and thorax finer, that of the abdomen less close and less coarse and on the anterior segments arranged more or less in four rows, the humeral angle is rufescent. Head as long

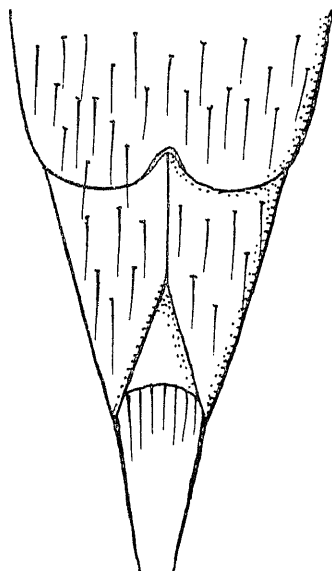


Fig. 20.—*Astenus simlaensis*, apex of abdomen of ♂ ;
ventral surface.

as broad (with the eyes), broader than the thorax, scarcely coarctate behind, the posterior angles broadly rounded, the sculpture reticulate-umbilicate. Antennæ moderate, the penultimate joints a little longer than broad. Thorax narrow, elongate, the sides rounded in front and a little widened, with three black setæ, the sculpture as on the head. Elytra (measured from the base) a little longer and broader than the thorax, moderately coarsely, closely, and roughly punctured as in *pulchellus*, the sides without setæ. Abdomen with the first three segments with four rows of rather fine, close punctures,

behind more irregularly, finely, and sparingly punctured. Anal styles testaceous, slender, straight. The whole insect with a fine yellowish pubescence, more evident on the elytra and abdomen.

♂: 6th ventral segment with acute triangular excision, the apex rounded, the sides bordered.

Simla Hills : Kotgarh ; Gahan, alt. 7000 feet.

618. *Astenus leptocerus*. (Fig. 21.)

Spinus leptocerus Epp.*, W. E. Z. xiv, 1895, p. 64.

Black, the head and thorax nearly opaque, elytra and abdomen shining, the former with a large sinuate yellow mark

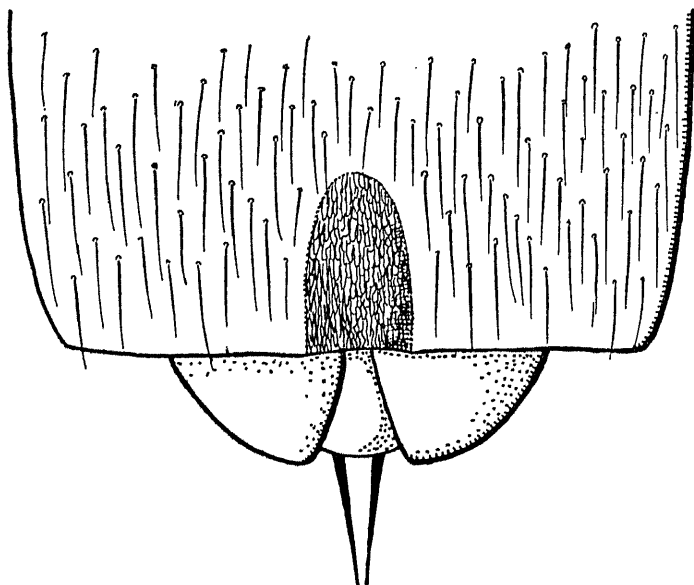


Fig. 21.—*Astenus leptocerus*, head of abdomen of ♂ ; ventral surface.

occupying the posterior region from the middle of the suture to the posterior-external angle. Antennæ, palpi, and legs yellow. Length 4.2 mm.

In build and colour almost exactly similar to *A. angustatus* Payk. of Europe, but at once distinguished from it by the larger size and much longer antennæ. Head slightly longer than broad, wider than the thorax, the base almost truncate, the posterior angles rounded, the sculpture of the usual reticulate-umbilicate character, scarcely differing from *angustatus*. Antennæ long and slender, reaching the base of the thorax,

all the joints much longer than broad. Thorax moderately dilated and rounded in front, the sculpture as on the head, the sides with four or five setæ. Elytra broader and a little longer than the thorax, closely, moderately coarsely, subrugosely punctured, the sides not setose. Abdomen closely and rather coarsely punctured on the anterior segments, more finely and sparingly behind. Anal styles yellow, approximate, decurved. Elytra and abdomen with fine grey pubescence.

♂: 6th ventral segment with narrow, acute triangular emargination; 5th with an oblong impression at the posterior border, the sides carinate, the fundus coriaceous.

Nagpur (type). Nilgiri Hills. Dehra Dun. Mussoorie. Ceylon: Kandy. Also in Rodriguez Island.

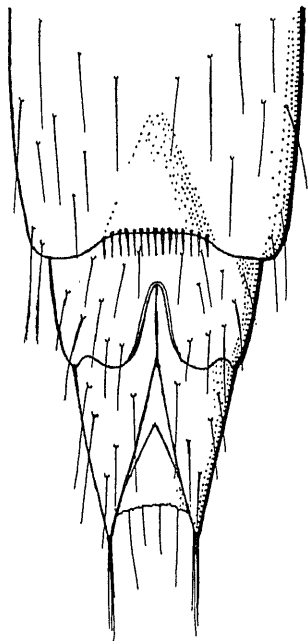


Fig. 22.—*Astenus pulchripennis*, apex of abdomen of ♂; ventral surface.

619. *Astenus pulchripennis*, sp. n. (Fig. 22.)

Scarcely shining, black, the elytra with the base, suture, and humeral angle broadly, the posterior margin narrowly reddish-testaceous, the suture itself very narrowly blackish. Antennæ, palpi, and legs yellow. Length 4.2 mm.

In size and build scarcely differing from *A. leptocerus*,

coloration very similar to *A. H-signatus*, but head more rounded behind, the thorax narrower with coarser sculpture, the abdomen much less finely punctured; the reddish-testaceous sutural fascia is not interrupted by a fine transverse blackish line as in that species.

♂: 6th ventral segment with narrow, acute triangular excision, the edges bordered, the apex rounded; 5th with a broad shallow emargination closely set with long black pectinations, in front with a narrow impression extending nearly the whole length of the segment, the puncturation and pubescence not different from that of the adjacent surface.

Chakrata and Mussoorie districts, in damp debris near streams.

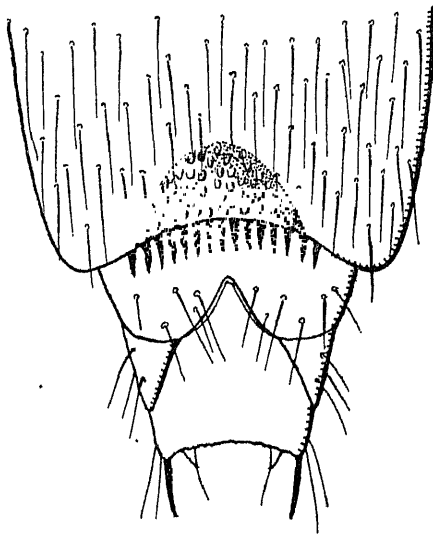


Fig. 23.—*Astenus marginalis*, apex of abdomen of ♂;
ventral surface.

620. *Astenus marginalis*, sp. n. (Fig. 23.)

Black, subopaque, the elytra and abdomen a little more shining; elytra reddish-testaceous, with a rounded black spot on each elytron of variable size and occasionally extending on to the epipleuron, the suture very narrowly blackish. Antennae, palpi, and legs yellow. Length 5 mm.

In build, sculpture, and antennal structure scarcely differing from *A. pulchripennis*, but with the elytral marking different; this consists of a larger or smaller black spot, sometimes of considerable extent and then only leaving the base, sutural,

apical, and part of the lateral margins reddish-yellow. The male characters are also different.

♂: 6th ventral segment with an acute triangular excision, the apex rounded, the sides bordered; 5th more broadly emarginate than in *pulchripennis* and furnished with fifteen long, but much stouter and less closely placed black spines, on either side with two black setæ, in front of the emargination broadly and slightly impressed, the impression moderately closely and somewhat asperately punctured.

Mussoorie district: Kemti Falls, Dhobi Ghat. Chakrata district; Manjgaon, alt. 6500 feet.

621. *Astenus H-signatus*.

Astenus H-signatus Cam., Trans. Ent. Soc. Lond. 1914, p. 540.

Black, elytra reddish-testaceous, with the sides (except the postero-external angles) broadly, and a narrow median transverse band, black, forming a distinct black H-pattern. Antennæ, palpi, and legs testaceous. Length 5 mm.

Head subquadrate as in *leptocerus*, broader than the thorax, sides behind the eyes slightly convergent to the rounded posterior angles, sculpture close, umbilicate. Antennæ moderate, all the joints longer than broad, gradually decreasing in length from the third to the tenth. Thorax narrower than the elytra, longer than broad, the anterior angles rounded, the sides gradually narrowed from before backwards, sculpture as on the head. Elytra a little longer than the thorax, reddish-testaceous, with the sides except the postero-external angles, a median transverse band crossing the suture and joining the lateral bands, black; this arrangement of colour gives a very definite figure of the capital letter H. The suture is very narrowly infusate; puncturation moderately close and fine; pubescence yellow. Abdomen black, the posterior margins of the segments narrowly ferruginous, puncturation fine and moderately close, pubescence yellow. Anal styles rather long, slender.

Assam: Patkai Hills. British Museum Collection.

622. *Astenus varians*, sp. n. (Fig. 24.)

Very variable in colour. In the type form black, the head and thorax slightly, the elytra and abdomen more shining, the former with the posterior margin narrowly reddish-testaceous. In others the whole insect brown, with the posterior and sutural areas more or less extensively lighter; between these extreme forms every gradation is found. The insect is, however, readily recognized by the thoracic sculpture, which coalesces to form fine longitudinal rugæ; the only other species

in our fauna with similar sculpture is *A. gratus*, and in this the head is much more strongly narrowed behind, the elytra are quite black and the first four abdominal segments red. In build like *A. leptocerus*, but the head more rounded and coarctate behind, the antennæ much longer, the penultimate joints longer and more narrowed at their bases, the eyes a little smaller, the sculpture of the head a little finer, that of the thorax quite different, as above indicated, the elytra with punctures of about the same size, but distinctly less close, the abdomen as closely but much more coarsely punctured.

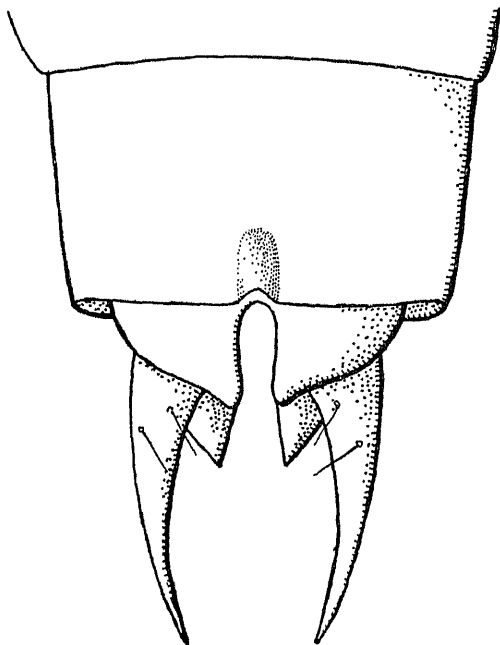


Fig. 24.—*Astenus varians*, apex of abdomen of ♂ ;
ventral surface.

Anal styles long, yellow, slightly decurved. Antennæ, palpi, and legs yellow. Length 4·75 mm.

♂: 6th ventral segment with deep almost parallel-sided excision, the apex rounded, the sides not bordered; 5th with small arcuate emargination at the middle of the posterior border, in front of it with a deep subtriangular shining impression, the fundus closely studded with little granules in front, smooth behind.

Dehra Dun. Siwaliks : Kheri Rau, Nakraunda. Mussoorie district : Arni Gad, Kolhu Khet Gad.

623. *Astenus flavipennis*, sp. n. (Fig. 25.)

Head and thorax pale red, scarcely shining; elytra and abdomen more shining, the former yellow, the latter brownish-yellow. Antennæ, palpi, and legs yellow. Length 4 mm.

In build very similar to *A. varians*, but rather narrower. Head distinctly longer than broad, the eyes rather large and prominent, the post-ocular region rounded and evenly retracted to the neck, the sculpture of the usual pattern. Antennæ long and slender, all the joints much longer than broad. Thorax distinctly widened in front, with broadly rounded anterior angles, the sides with five long black setæ, the sculpture as on the head. Elytra as long as but broader than the thorax,

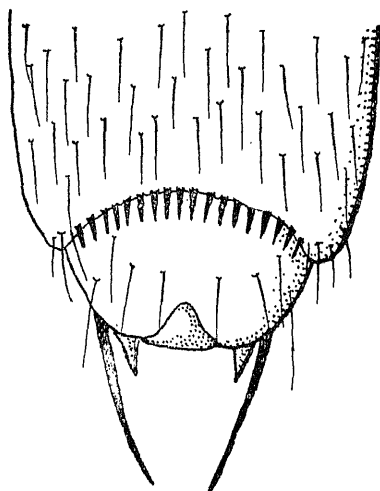


Fig. 25.—*Astenus flavipennis*, apex of abdomen of ♂ ; ventral surface.

moderately coarsely, closely punctured, with scanty yellow pubescence, the sides with numerous black setæ. Abdomen closely and more finely punctured than the elytra, yet more finely and more sparingly behind, with yellow pubescence and numerous long black setæ. Anal styles yellow.

♂ : 6th ventral segment with small subtriangular excision, the apex rounded; 5th broadly and slightly emarginate, and furnished with rather long black spines (about 22), separated by a space about equal to the breadth of the spines themselves.

Dehra Dun : Nim Nadi. Siwaliks : Nakraunda. Kumaon : Haldwani.

624. *Astenus hindostanus*. (Fig. 26.)*Astenus hindostanus* Cam., E. M. M. Iv, 1919, p. 227.

Narrow, elongate, black, the head and thorax scarcely, the elytra and abdomen distinctly, shining, the former posteriorly narrowly testaceous; antennæ filiform, testaceous; legs testaceous. Length 5 mm.

Colour of the European *A. immaculatus* Steph., but with longer head more strongly narrowed behind, larger eyes, much longer and more slender antennæ, etc. Head oblong, the temples long, gradually narrowed and rounded; sculpture close and umbilicate. Antennæ long and slender, all the joints much longer than broad, the 2nd joint shorter than the 3rd, the 10th and 11th but little shorter than the 9th.

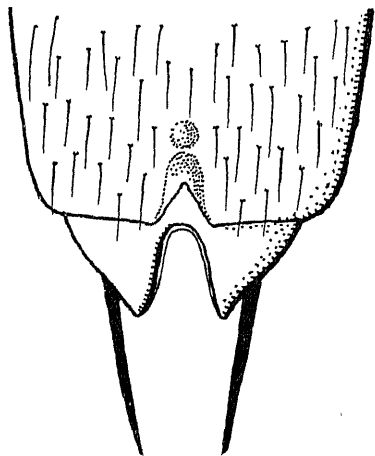


Fig. 26.—*Astenus hindostanus*, apex of abdomen of ♂;
ventral surface.

Thorax a little narrower than the head, longer than broad, narrowed behind, the anterior angles broadly rounded, the sides with three setæ. Elytra as long as and scarcely wider than the thorax at the anterior angles, with narrow testaceous border posteriorly, coarsely, closely, and simply punctured, the interspaces smooth and shining. Abdomen elongate, shining, coarsely and closely punctured, especially at the bases of the segments; 7th and 8th segments almost smooth; anal styles reddish-testaceous.

♂: 6th ventral segments with a deep, parallel-sided excision of the posterior border, the apex of which is rounded; 5th with a moderately broad triangular excision of the posterior margin, and a deep rounded impression anterior thereto,

the fundus smooth and shining, in front with a superficial round impression.

Ceylon: Colombo; Kandy; Nuwara Eliya (*G. Lewis*).
India: Nilgiri Hills (*Andrewes*).

625. *Astenus obscurus*, sp. n.

Very closely allied to *A. hindostanus* and only differing in the following respects: the head more oblong, the thorax less widened in front and completely rounded without trace of angulation, the sculpture larger and more superficial, the elytra are a little longer, more narrowly and more obscurely reddish-testaceous at the posterior margin, the sculpture a little finer and closer, the abdomen a little more finely punctured. Length 5 mm.

♂: unknown.

Nilgiri Hills (*H. L. Andrewes*).

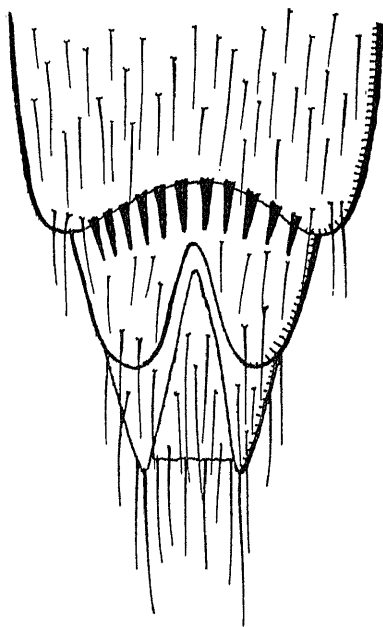


Fig. 27.—*Astenus nilgiriensis*, apex of abdomen of ♂;
ventral surface.

626. *Astenus nilgiriensis*, sp. n. (Fig. 27.)

Reddish-testaceous, the elytra and abdomen a little more shining than the fore-parts, the elytra each with an oval

dark spot behind the middle. Abdomen with the 7th segment black, the posterior margin broadly reddish-yellow. Antennæ, palpi, and legs yellow. Length 5 mm.

In build very similar to the Canarian *A. dimidiatus* Woll., but more robust. Head large, oblong, broader than the thorax, the eyes rather small, the post-ocular region long, at first almost parallel, then broadly rounded to the neck, the sculpture of the usual character. Antennæ long and slender, all the joints much longer than broad. Thorax long, oval, not much widened in front, the sides with four or five black setæ, the sculpture as on the head. Elytra scarcely longer but distinctly broader than the thorax, closely and moderately coarsely punctured, finely yellow pubescent, the sides with several black setæ, not outstanding, but adpressed to the elytra. Abdomen in front closely and scarcely more finely punctured than the elytra, finely yellow pubescent and with numerous black setæ. Anal styles long, decurved, yellow.

♂: 6th ventral segment acutely triangularly excised, the apex rounded, the sides very finely bordered; 5th broadly, rather deeply emarginate, the emargination furnished with a dozen long stout black spines, not contiguous, but separated from each other by a space about equalling the breadth of the spines, in front slightly impressed, the impression with a few asperate punctures.

Nilgiri Hills (*H. L. Andrewes*).

627. *Astenus maculipennis*.

Sunius maculipennis Kr.*, Arch. Naturg. xxv, 1859, i, p. 148.

Sunius maculipennis var. *maculatus* Cam., E. M. M. lvi, 1920, p. 146.

Narrow, elongate, testaceous, the elytra and abdomen a little more shining, the former with an oblong black spot on the middle of each, the latter with the last two segments black. Antennæ and legs yellow. Length 3.75 mm.

In the var. *maculatus* the elytral spot extends on to the adjacent reflexed margin. Less elongate and less slender than *gracilentus*, with longer elytra and the last two abdominal segments very black, their posterior margins scarcely lighter. Head a little longer than broad, a little broader than the thorax, the eyes rather large, the post-ocular region slightly retracted, then rounded with the base, with moderately fine reticulate-umbilicate sculpture. Antennæ slender, all the joints much longer than broad. Thorax oval, narrower behind, the sides with five long black setæ, the sculpture as on the head. Elytra broader and about a fourth longer than the thorax, closely and rather coarsely punctured and with a fine yellow pubescence, at the shoulders with two black

setæ. Abdomen closely and rather coarsely punctured for a small species, with fine yellow pubescence, the apex with a few long black setæ. The elytral spot is often much reduced.

♂: 6th ventral segment with small acute triangular excision.

Ceylon. India: Nilgiri Hills. Also in the Philippines.

628. *Astenus terminalis*, sp. n. (Fig. 28.)

In most respects similar to *maculipennis* except that the meshes of the network formed by the reticulations on the head and thorax are much larger, larger than in any other species in our fauna, the head and thorax are a little narrower and the elytra longer. In the two examples before me one has immaculate elytra whilst the other has an elongate dark mark on each disc, not extending on to the reflexed border. The abdomen more coarsely punctured than in either *maculipennis* or *gracilentus*. Length 4 mm.

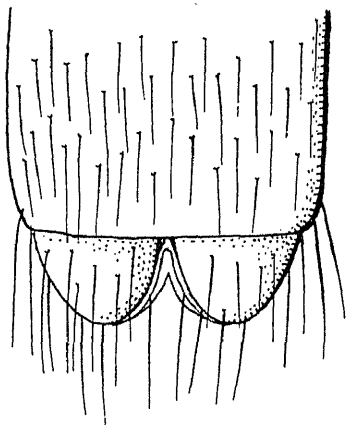


Fig. 28.—*Astenus terminalis*, apex of abdomen of ♂ ;
ventral surface.

In the male the 6th ventral segment is more deeply excised than in *maculipennis*, the edge is bevelled and bounded externally by a fine groove.

This insect was determined by Fauvel as *maculipennis*, but when compared with the type of that species is obviously different.

Nilgiri Hills (*Andrewes*).

629. *Astenus gracilentus*.

Sumius gracilis Kr.*, Arch. Naturg. xxv, 1859, i, p. 147 (præocc.).

Astenus gracilentus Fauv., Ann. Mus. Civ. Gen. xv, 1879-80, p. 83.

Narrow, elongate, reddish-yellow, the elytra each with

an oval blackish spot behind the middle, not extending on the reflexed margin; the 7th and 8th abdominal segments pitchy-black, the posterior margins broadly reddish-yellow. Antennæ, palpi, and legs yellow. Length 4 to 4.5 mm.

Larger than *A. maculipennis*, the head and antennal structure similar. Differs in the colour of the last two abdominal segments, the thorax broader in front, the elytra shorter, but little longer than the thorax, the larger sculpture of the head and thorax (but not so large as in *A. terminalis*). The thorax on each side has five long black setæ, the elytra have several setæ not outstanding, but more or less adpressed to the sides, the abdomen has numerous black setæ.

♂: 6th ventral segment with acute triangular emargination, the sides finely bordered; 5th broadly emarginate, the emargination furnished with numerous long fine spines placed closely together, in front broadly and slightly impressed.

Dehra Dun. Siwaliks: Lachiwala. Nilgiri Hills. Dacca. Also in Singapore.

630. *Astenus taprobanus*.

Astenus taprobanus Cam., E. M. M. lv, 1919, p. 227.

Narrow, elongate, rufo-testaceous, a little shining, the suture of the elytra very narrowly blackish in the posterior half. Antennæ, palpi, and legs yellow. Length 5 mm.

In build very similar to *A. terminalis*, but larger and with longer head and less prominent eyes, the sculpture of the head and thorax much less large, the colour entirely different. The antennal structure is similar. Head oblong, the temples gradually and slightly contracted posteriorly, the posterior angles rounded; puncturation coarse, close, and umbilicate. Antennæ slender, but shorter than head and thorax, all the joints longer than broad, the 2nd shorter than the 3rd, 5th to the 8th scarcely differing in length, the 11th a little longer than the 10th. Thorax oblong, a little narrower than the head, gradually narrowed behind, the anterior angles rounded, the puncturation as on the head, the sides with two black setæ. Elytra as long as and a little broader than the thorax, longer than broad; puncturation coarse, close, and simple, the sides without setæ. Abdomen elongate, a little widened behind, rather coarsely and closely punctured, especially at the base of the segments, the 7th and 8th segments much more finely and sparingly punctured; pubescence moderate, yellow, intermixed with black setæ.

♂: unknown.

Ceylon: Dikoya, alt. 4000 feet (*G. Lewis*). Burma; Tenasserim. Also in Sumatra.

631. *Astenus melanurus*. (Fig. 29.)

Sunius melanurus Küst., Käf. Eur. xxvi, 1853, p. 76; Kraatz, Berl. Ent. Zeit. ii, 1858, p. 67; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 296 (note); Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 541.

Sunius æmulus Rottbg., Berl. Ent. Zeit. xiv, 1870, p. 33.

Sunius apicalis Motsch., Bull. Mosc. xxxiii, 1860, ii, p. 560; Hochh., l. c. xxxv, 1862, iii, p. 72.

Astenus apicalis var. *subnotatus* Fauv.*, Rev. d'Ent. xxiii, 1904, p. 51.

Elongate, yellowish-red, the elytra and abdomen a little more shining than the fore-parts, the elytra yellow, occasionally with an oval blackish spot (var. *subnotatus*) behind the middle, not extending to the epipleura; abdomen with the 7th segment (except the apical margin) blackish. Antennæ, palpi, and legs yellow. Length 3.25 to 3.5 mm.

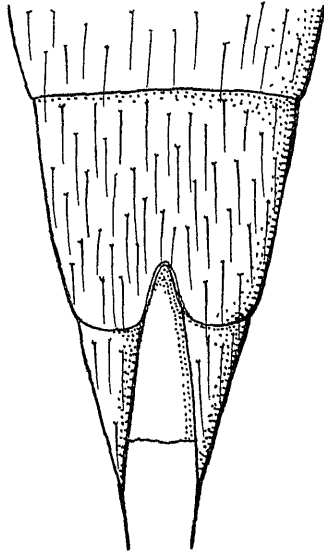


Fig. 29.—*Astenus melanurus* var. *subnotatus*, apex of abdomen of ♂; ventral surface.

Head scarcely longer than broad, subquadrate, broader than the thorax, the eyes large and prominent, the post-ocular region round and retracted to the neck, not coarctate with the base, the sculpture of the usual character. Antennæ moderate, the penultimate joints a little longer than broad. Thorax distinctly widened in front, the anterior angles broadly rounded, the sculpture as on the head, the sides with only two long black setæ. Elytra broader and distinctly longer than the thorax, closely, moderately finely, subrugosely punctured, finely yellow pubescent, the sides without setæ.

Abdomen closely and finely punctured, a little more sparingly behind, with fine yellow pubescence, each segment with a black seta on each side, the dorsal surface only with a few short depressed black setæ. Anal styles short, yellowish.

♂: 6th ventral segment with acute triangular excision, the apex rounded, the sides very finely bordered.

Dehra Dun. The variety is recorded from Nagargali, Dugeli, Sampgaon; I have specimens from Dehra Dun and Poonah.

The type-form is widely distributed in the Mediterranean, Canary Islands, and South Africa. The variety is found also there and in Java.

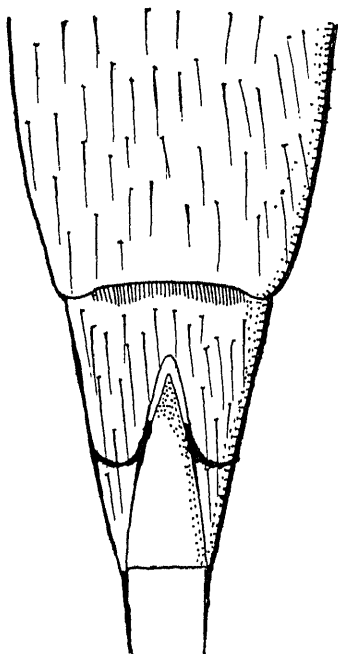


Fig. 30.—*Astenus semibrunneus*, apex of abdomen of ♂ : ventral surface.

632. *Astenus semibrunneus*, sp. n. (Fig. 30.)

Narrow, elongate, a little shining, the fore-parts reddish-yellow, the abdomen brown. Antennæ, palpi, and legs yellow. Length 4 mm.

Scarcely differing in build and sculpture from *A. melanurus*, but, apart from the colour, the antennæ are much longer and

more slender, the penultimate joints a good deal longer than broad; each side of the thorax has five long black setæ, the elytra are more rugosely punctured and the sides are furnished with nine or ten short black setæ. Anal styles black.

♂: 6th ventral segment deeply, acutely excised; 5th slightly broadly emarginate, the emargination furnished with rather long, fine black spines closely set together.

Dehra Dun.

633. *Astenus indicus*.

Sunius indicus Kr., Arch. Naturg. xxv, 1859, i, p. 148.

Sunius oculatus Shp., Trans. Ent. Soc. Lond. 1874, p. 72.

Sunius pallidulus Woll., Cat. Can. 1864, p. 591.

Sunius parviceps Ragusa, Nat. Sic. x, 1891, p. 239.

Narrow, elongate, parallel, yellowish-red, the elytra yellow, abdomen with the 7th segment black, the 8th reddish. Antennæ, palpi, and legs yellow. Length 3 mm.

Closely allied to *A. melanurus*, but narrower and a little smaller, the post-ocular region coarctate with base, the thorax less wide in front and the sides with five long black setæ, the abdomen more finely and closely punctured. In other respects similar to *melanurus*.

♂: 6th ventral segment with acute triangular excision.

Ceylon. Bombay. Burma. Widely distributed in the Oriental Region, also in the Mediterranean, Canaries, East and West Africa.

634. *Astenus concolor*.

Sunius concolor Kr.*, Arch. Naturg. xxv, 1859, i, p. 149.

Elongate, linear, testaceous. Antennæ, palpi, and legs yellow. Length 3 mm.

About the size of *A. indicus*, but differing in the uniform colour, the post-ocular region at first parallel and then broadly rounded to the neck, not coarctate, the head more subquadrate (as in *melanurus*), the thorax a little shorter and broader, the elytra shorter, scarcely longer than the thorax, and these and the abdomen a little more coarsely punctured.

India (without further indication).

635. *Astenus flavus*.

Sunius flavus Kr.*, Arch. Naturg. xxv, 1859, i, p. 149.

Slightly larger than *concolor* (3·3 mm.) and of paler colour, the post-ocular region coarctate with the base, the head more suborbicular; the elytra a little longer than the thorax. The thoracic setæ in the type of this and the preceding species are no longer present.

"Ind. or." (without further indication).

636. *Astenus kraatzii*. (Fig. 31.)*Astenus kraatzii* Bernh., D. E. Z. 1902, p. 36.

Reddish, moderately shining, the elytra reddish-yellow with a black spot on each side about the middle, scarcely extending on to the epipleura; abdomen with the 7th segment (except the posterior margin) black or pitchy. Antennæ, palpi, and legs yellow. Length 3.5 mm.

In build approaches the genus *Stilicopsis*. Head oblong, longer than broad, slightly wider than the thorax, the eyes large, the post-ocular region gently and evenly rounded to the neck, with rather coarse reticulate-umbilicate sculpture. Antennæ long and slender, all the joints much longer than broad. Thorax a little longer than broad, distinctly widened in front, the anterior angles broadly rounded, the sides with

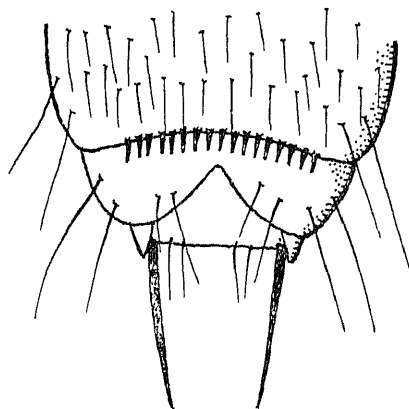


Fig. 31.—*Astenus kraatzii*, apex of abdomen of ♂;
ventral surface.

four long setæ, the sculpture as on the head. Elytra as long and as broad as the thorax, rather coarsely and closely punctured; finely yellow pubescent, the sides with four or five black setæ. Abdomen a little widened behind, closely and moderately coarsely punctured in front, more finely and more sparingly behind, with fine rather long yellow pubescence and numerous black setæ. Anal styles reddish, long, slender, and decurved.

♂: 6th ventral segment with acute triangular excision; 5th broadly and very slightly emarginate, the emargination furnished with about a dozen short slender spines not in contact with each other.

Ceylon: Nalanda; Anuradhapura; Trincomalee; Colombo.

637. *Astenus setiferus*, sp. n. (Fig. 32.)

Near *A. kraatzi*; of similar colour, but the elytra immaculate; a little larger and more robust, the antennæ much longer, the elytra narrowed at the base and a little widened behind, more depressed on the disc, more coarsely punctured with more numerous black setæ; abdomen more coarsely punctured. Length 3·75 mm.

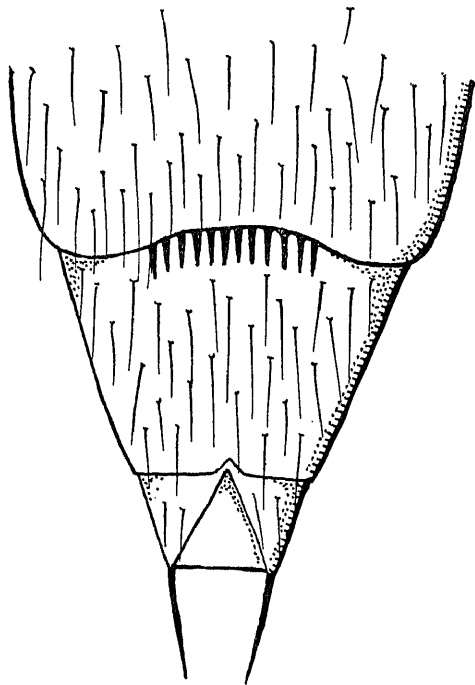


Fig. 32.—*Astenus setiferus*, apex of abdomen of ♂; ventral surface.

♂: 6th ventral segment reddish-yellow, with a very small *obtuse* emargination; 5th broadly and slightly emarginate, the emargination with about a dozen black spines which are longer than in *kraatzi*.

Nilgiri Hills.

638. *Astenus peraffinis*, sp. n. (Fig. 33.)

Very closely allied to *A. setiferus*, and only differing from it in the following points: the head is more suborbicular, the thorax not so wide in front, more oval, and in the male characters.

♂: 6th ventral segment *black*, with narrow *acute* triangular excision, the apex rounded: 5th broadly, slightly emarginate, and furnished with about a dozen rather long black spines, distinctly longer than those of *setiferus*.

Nilgiri Hills.

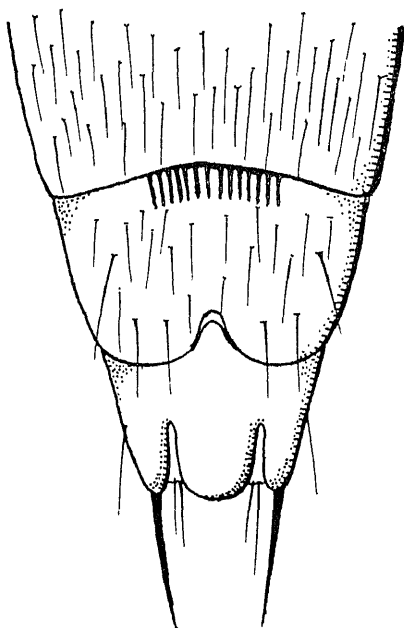


Fig. 33.—*Astenus peraffinis*, apex of abdomen of ♂ : ventral surface.

Genus STILICOPSIS Sachse.

Stilicopsis Sachse, Stett. Ent. Zeit. xxii, 1852, p. 144; Kraatz, Naturg. Ins. Deutsch. ii, 1856–58, p. 665; Sharp, B. C.-A. i, 2, 1882–87 (1886), p. 606; Casey, Trans. Ac. St. Louis, xv, 1905, p. 231.

This genus is very closely allied to *Dibelonetes* and *Astenus*, the principal difference being in the structure of the labrum. In this genus the labrum is a little produced in the middle in front and is furnished with two teeth, in *Dibelonetes* the teeth are much longer, in *Astenus* the labrum is emarginate in front in the middle, and the fundus of the emargination has two little teeth; in other respects the mouth parts are similar to those of *Astenus*, as is also the tarsal structure. The colour in some (*umbilicata* and *strigella*) would appear to be very variable, ranging from black to reddish-testaceous, and,

according to Fauvel, these are immature, but in my experience they are far commoner than the type-forms and do not appear to me to be immature.

The genus is found throughout the warmer parts of the world.

Key to the Species.

- | | |
|---|--------------------------------------|
| 1. Head and thorax with normal reticulate-umbilicate sculpture | 2. |
| Head and thorax with fine longitudinal rugæ here and there coalescing, forming an elongate network | <i>strigella</i> Fauv., p. 93. |
| 2. Abdomen in great part black or brown . | 3. |
| Abdomen otherwise coloured. | 6. |
| 3. Abdomen black, the posterior margin of the 4th (visible) segment broadly testaceous; elytra black, with yellow markings | <i>plagiata</i> Fauv., p. 92. |
| Abdomen brown, the posterior margins of the segments and often the sides lighter; elytra reddish-yellow, with or without dark marking | 4. |
| 4. Head and thorax black, elytra reddish-yellow | <i>flavipennis</i> , sp. n., p. 96. |
| Head and thorax otherwise coloured .. | 5. |
| 5. Head and thorax black, the former with a ferruginous spot on the disc, the latter with median longitudinal ferruginous fascia | <i>dorsolineata</i> , sp. n., p. 97. |
| Head and thorax ferruginous-red, elytra reddish-yellow, immaculate | <i>indica</i> , sp. n., p. 98. |
| 6. Abdomen ferruginous-red, the 4th (visible) segment black. | 7. |
| Abdomen entirely reddish-yellow | <i>pallida</i> , sp. n., p. 98. |
| 7. Larger (3.5 mm to 3.75 mm.). Antennæ longer, the penultimate joints fully as long as broad; thorax longer than broad | <i>umbilicata</i> Fauv., p. 94. |
| Smaller (2.75 mm.). Antennæ shorter, the penultimate joints transverse; thorax transverse. | <i>trinotata</i> Kr., p. 95. |

639. *Stilicopsis plagiata*.

Stilicopsis plagiata Fauv., Rev. d'Ent. xiv, 1895, p. 223.

Robust, a little shining, convex, the head and thorax nearly opaque, closely, rather finely umbilicate-punctate, the sides each with three long black setæ, black, the labrum in front, palpi, antennæ, and margins of the segments (the 6th broadly) and the legs yellow, elytra with sparing yellow pubescence, the base triangularly, the suture more or less, the apical margin and posterior external angles (more broadly) reddish-yellow. Antennæ rather slender, as long as the head and thorax, the 1st joint with four setæ above, the 10th shorter than the 9th; labrum bidentate, the teeth distant. Head rather large, eyes prominent, the front on each side

scarcely impressed, the temples long, arcuate, and somewhat narrowed. Thorax rather longer than broad, a little narrower than the head, more strongly and less shortly narrowed in front, more shortly narrowed behind. Elytra longer than broad, rather closely and strongly asperately punctured, on each side with three long setæ. Abdomen rather closely, at the base more strongly, at the apex more finely punctured, almost as broad as the elytra.

♂: unknown. Length $4\frac{2}{3}$ mm.

Burma: Carin Asciiui Ghécu, alt. 1400 to 1500 metres, iii., iv. (*L. Fea*) (ex *Fauvel*).

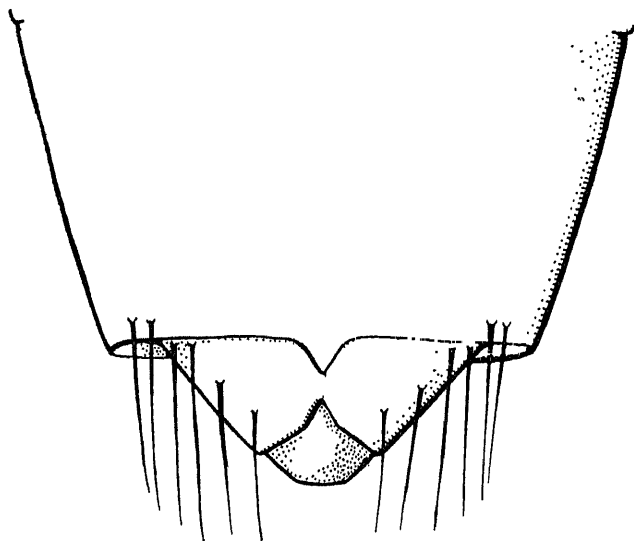


Fig. 34.—*Stilicopsis strigella*, apex of abdomen of ♂ ; ventral surface.

640. *Stilicopsis strigella*. (Fig. 34.)

Stilicopsis strigella Fauv., Rev. d'Ent. xiv, 1895, p. 223.

Near the preceding (*plagiata*), but smaller and shorter, the antennæ shorter and stouter, the 1st joint much stouter, the two penultimate shorter than the rest, labrum obsoletely bidentate; head shorter, more narrowed from the eyes to the neck, front flatter; thorax shorter, scarcely longer than broad, closely striate-umbilicate, shorter in front, less shortly narrowed behind than in *plagiata*; elytra shorter, as long as the thorax, yellowish-red, with the suture narrowly black and with a discal spot and a smaller one at the side, black, or (immature) yellow, almost or quite immaculate, with five long black setæ

on each side; abdomen dilated, the sides and posterior margins (the 6th more broadly) yellow, the anterior segments much more finely and closely punctured. Length $3\frac{3}{4}$ mm.

♂: 6th [5th] ventral segment in the middle of the apical border with a flat tooth, external to the tooth a little sinuate on each side; 7th [6th] triangularly but not deeply excised.

Burma: Carin Asciiui Ghécu, alt. 1400 to 1500 metres, iii., iv. (*L. Fea*) (ex *Fauvel*).

Differs from *S. umbilicata* in the smaller less transverse head and narrower thorax, their sculpture composed of longitudinal reticulations, the rugæ finer than in *umbilicata*; the antennæ and elytral puncturation scarcely differ in the two.

Two specimens from the Malay States and two from Burma agree in all respects (including the male characters) with *Fauvel's* description except as to colour; in them the head and thorax are ferruginous-red, the elytra yellow, the abdomen brownish-yellow, with the sides of the segments narrowly, the apical margin of the 7th broadly, lighter. They do not appear to be immature.

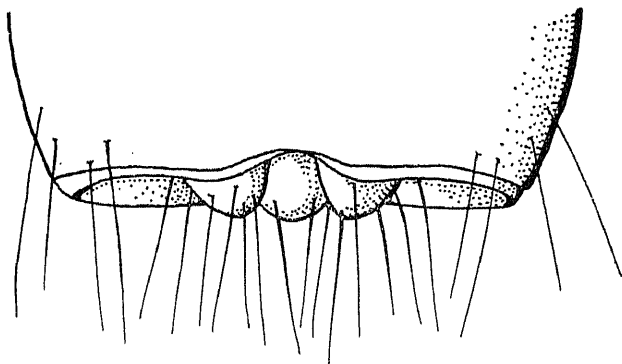


Fig. 35.—*Stilicopsis umbilicata*, apex of abdomen of ♂; ventral surface.

641. *Stilicopsis umbilicata*. (Fig. 35.)

Stilicopsis umbilicata Fauv., Rev. d'Ent. xiv, 1895, p. 223.

Distinguished from the preceding (*strigella*) by the densely umbilicate-reticulate sculpture of the head and thorax as in *trinotata* Kr., but differs from this species by the antennæ being a little longer, the head larger and especially longer, the temples longer, the posterior angles rounded and narrowed to the neck, scarcely truncate; thorax longer than broad; elytra longer, more closely punctured, black, with a triangular

basal spot from the shoulders to the middle of the suture red, the apical third yellow; abdomen more strongly and closely punctured and yellow pubescent, differently coloured, obscure red, the 6th segment pitchy except for the apical third, which is yellow.

♂: 6th [5th] ventral segment broadly and slightly emarginate; 7th [6th] more deeply and narrowly excised. Length $3\frac{1}{2}$ to $3\frac{3}{4}$ mm.

Immature examples red, with the palpi, antennæ, elytra, and legs yellow. Brachypterous forms with the elytra as long as the thorax are found.

Burma: Carin Asciiui Ghécu, alt. 1400 to 1500 metres, iii., iv. (*L. Fea*). Also in Penang, Philippines, Sumatra (ex *Fauvel*).

The lighter forms are far more abundant than the darker ones, and are, I believe, quite mature and have the colour of *trinotata*.

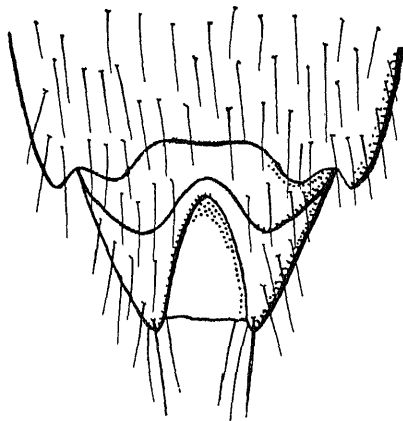


Fig. 36.—*Stilicopsis trinotata*, apex of abdomen of ♂; ventral surface.

642. *Stilicopsis trinotata*. (Fig. 36.)

Sunius trinotatus Kr., Arch. Naturg. xxv, 1859, i, p. 149.

A little shining, the head and the thorax ferruginous-red, the elytra reddish-yellow, each with a triangular black spot at the lateral border (but not invading the epipleura) extending obliquely towards the suture and with a common spot on the latter behind, black, often the apex of the lateral spot joins the sutural; abdomen reddish, with the 4th (visible) segment black. Antennæ, palpi, and legs yellow. Length 3 mm.

In colour resembles the most commonly met with forms of

S. umbilicata, but of smaller size, the antennæ shorter, the head smaller, with shorter post-ocular region, the thorax shorter and broader, the elytra a little less closely punctured, the abdomen less closely and more finely punctured. Head suborbicular, a little broader than long, broader than the thorax, the eyes large and prominent, the post-ocular region rounded and retracted to the neck, with the usual reticulate-umbilicate sculpture. Antennæ reaching the base of the thorax, the penultimate joints slightly transverse. Thorax slightly transverse, subtrapezoidal, the angles broadly rounded, the sides with four or five long black setæ, the sculpture as on the head. Elytra a little longer and broader than the thorax, moderately coarsely and moderately closely subrugosely punctured, finely yellow pubescent, the sides with four long black setæ. Abdomen very finely, obsoletely, not closely punctured, finely yellow pubescent.

♂: 6th ventral segment rather broadly, deeply arcuately excised; 5th broadly and rather deeply emarginate, the centre of this emargination a little produced and rounded, so that emargination is bisinuate.

Ceylon: Colombo; Belligam; Trincomalee; Nalanda; Anuradhapura. India: Nilgiri Hills.

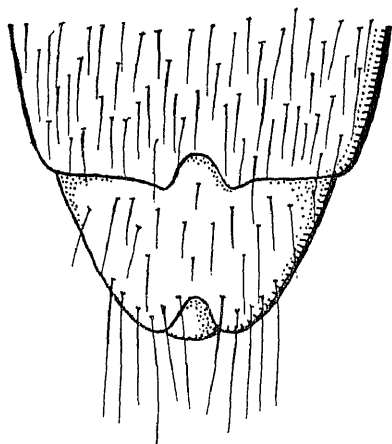


Fig. 37.—*Stilocopsis flavipennis*, apex of abdomen of ♂; ventral surface.

643. *Stilocopsis flavipennis*, sp. n. (Fig. 37.)

Head and thorax black, dull, elytra and abdomen more shining, the former yellow, the latter pitchy-black, the posterior margins and sides of the segments yellowish. Antennæ, palpi, and legs yellow. Length 4 mm.

Head (with the eyes) a little broader than long, broader than the thorax, the eyes rather large and prominent, the post-ocular region gently rounded and retracted to the neck. Labrum yellow, between the two teeth with three denticles; the sculpture of the usual pattern, but small. Antennæ with the 7th to 9th joints not much longer than broad, the 10th about as long as broad. Thorax a little longer than broad (5:4), the anterior angles broadly rounded, the sides with four or five long black setæ, the sculpture smaller than that of the head. Elytra as long as but broader than the thorax, rather closely, moderately coarsely punctured and with a fine yellow pubescence and three long black setæ at each side. Abdomen finely and closely punctured, more finely and sparingly behind, finely yellow pubescent.

♂: 6th ventral segment with small, semi-oval excision; 5th with a small semicircular excision.

Chakrata district: Sijla Gad; Mohna; Binal Gad, alt. 3500 to 5000 feet. Mussoorie district; Arni Gad, alt. 5000 to 6000 feet.

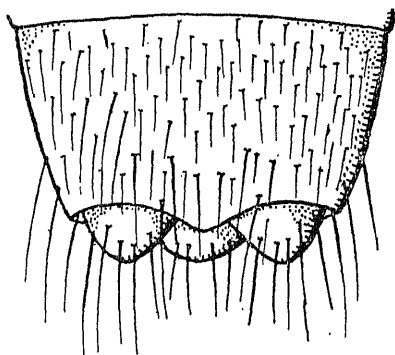


Fig. 38.—*Stilicopsis dorsolineata*, apex of abdomen of ♂; ventral surface.

644. *Stilicopsis dorsolineata*. (Fig. 38.)

Stilicopsis dorsolineata Cam., Trans. Ent. Soc. Lond. 1924, p. 181.

Dark brown or blackish, the vertex of the head and a line along the middle of the thorax ferruginous; elytra testaceous, each with a large ill-defined brown spot on the disc; abdomen with the sides narrowly yellow, occasionally more or less broadly yellowish along the middle. Antennæ and legs testaceous. Length 4 mm.

More robust than *S. flavipennis*, the head larger, the thorax broader, the reticulate sculpture larger, the elytra rather more

finely punctured. Head (excluding eyes) a little longer than broad, slightly narrowed anteriorly, the eyes prominent, the posterior angles broadly rounded, disc with indeterminate ferruginous spot, the whole surface with rather coarse umbilicate sculpture; the labrum with very small teeth, the space between rounded. Antennæ short, 2nd joint shorter than 3rd, 3rd to 8th longer than broad, gradually decreasing in length, 9th to 10th about as long as broad, 11th longer than 10th. Thorax longer than broad, narrower than the head, widest at the rounded anterior angles, from thence obliquely narrowed to the neck, dark brown or blackish with ill-defined median ferruginous band from base to apex; anterior angles with two long black setæ; sculpture as on the head. Elytra broader, but scarcely longer than the thorax, testaceous, with a large brown spot on the disc of each, puncturation moderately fine and close, the sides with four or five black setæ. Abdomen finely and very closely punctured on the first three (visible) segments, gradually more finely and sparingly behind.

♂: fifth ventral segment triangularly produced in the middle of the posterior border; 6th ventral segment deeply, triangularly emarginate, the apex of the excision rounded.

Dehra Dun. Mussoorie district: Arni Gad.

645. *Stilicopsis indica*, sp. n.

Head and thorax a little shining, ferruginous-red; elytra yellow, more shining; abdomen a little shining, brown, the posterior margin of the 7th (5th visible) segment broadly yellowish. Antennæ, palpi, and legs yellow. Length 4 mm.

In build and antennal structure similar to *S. dorsolineata*, differs in the colour and the larger teeth of the labrum. Perhaps only a race of *dorsolineata*, but I have not seen intermediate forms.

♂: unknown.

Dehra Dun.

646. *Stilicopsis pallida*, sp. n.

Head and thorax pale ferruginous-red, a little shining; elytra more shining, yellow with obscure brownish discal mark on each. Abdomen brownish-yellow, the posterior margins of the segments lighter. Antennæ, palpi, and legs yellow. Length 4 mm.

Differs from *S. indica* in the pale colour, narrower head, and finer and closer puncturation of the elytra.

♂: 6th ventral segment with rather broad but acute excision; 5th obtusely produced in the middle, the apex of the projection rounded.

Dehra Dun.

Genus **SCLEROCHITON** Kraatz.*Sclerochiton* Kraatz, Arch. Naturg. xxv, 1859, i, p. 133.*Saurellus* Motsch., Et. Ent. viii, 1859, p. 71.

Readily recognized by the large head with very large prominent eyes occupying nearly the whole side, narrow thorax, pointed abdomen, and rough scabrous sculpture. It is closely allied to the American genus *Echiaster*. Head large, transversely suborbicular, gular sutures fused. Labrum transverse, the sides and anterior angles broadly rounded, scarcely emarginate in front in the middle. Mandibles curved, pointed, the right with a large trifid, the left with large bifid tooth, the cusps pointed. Inner and outer lobes of the maxilla short, ciliate. Maxillary palpi with the 1st joint elongate, 2nd very short, 3rd elongate, a little longer than the 1st, oval, much broader than the preceding, 4th small, subulate. Mentum short, transverse, trapezoidal. Tongue triangular, the apex with four fine setæ. Paraglossæ not extending beyond the tongue, ciliate. Labial palpi 3-jointed, 1st joint very long, 2nd very short, 3rd about as long as the 1st, gradually narrowed and curved to the apex. Legs rather short, tibiæ ciliate. Tarsi 5-jointed, the joints short, gradually decreasing in length, the 4th simple.

Key to the Species.

1. Ochraceous, the abdomen, elytra, epipleura, and discal marking blackish .. *indicus* Motsch., p. 99.
 Black, the postero-external angles and posterior margin of the elytra reddish-testaceous *andrewesi* Cam., p. 100.

647. *Sclerochiton indicus*.*Echiaster indicus* Motsch., Bull. Mosc. xxxi, 1858, ii, p. 637; id., Et. Ent. viii, 1859, p. 71.*Sclerochiton ochraceus* Kr.*, Arch. Naturg. xxv, 1859, i, p. 134, tab. 2, fig. 8 a-c.

Dull, the fore-parts ochraceous, the abdomen black, the elytra with an elongate blackish mark on each disc and the epipleura blackish. Antennæ and legs yellow, the former a little infuscate towards apex. Length 2.75 mm.

Head transversely suborbicular, much broader than the thorax, slightly broader than the elytra, the eyes occupying nearly the whole side of the head, the base truncate, moderately coarsely, closely, rugosely punctured, the punctures umbilicate. Antennæ short, not reaching the base of the thorax, 2nd and 3rd joints equal in length, 4th scarcely longer than broad, 5th to 10th transverse, gradually increasing in breadth. Thorax a little longer than broad, narrowed behind, the anterior and posterior angles rounded, in front obliquely truncate to the neck, the sculpture as on the head. Elytra a

little longer and broader than the thorax, a little longer than broad, parallel, the sculpture close, but scarcely as rugose as that of the thorax. Abdomen gradually narrowed behind, the first four segments very closely and roughly punctured, the following more finely and sparingly, the apex without spines.

♂: 6th ventral segment with acute triangular excision.

India (without further indication).

648. *Sclerochiton andrewesi*. (Plate I. fig. 7.)

Sclerochiton andrewesi Cam., Trans. Ent. Soc. Lond. 1914, p. 541.

Black (head slightly pitchy), opaque, postero-external angles and apical margin of elytra narrowly testaceous. Antennæ and legs testaceous. Length 2.5 mm.

Differs from *S. ochracea* in the colour, narrower thorax, less pointed abdomen, finer and more distinctly umbilicate sculpture of the fore-parts. Head large, transverse, sub-orbicular, broader than the elytra, eyes very large, occupying the whole sides of the head, temples wanting; puncturation moderately coarse, close, umbilicate. Antennæ short, the first two joints of equal length, shorter than the following, 4th shorter than 3rd, 5th to 7th orbicular, 8th to 10th transverse, 11th oval, pointed. Thorax much narrower than the head, longer than broad, strongly narrowed in front of the obtuse anterior angles, much less strongly narrowed behind to the rounded posterior angles; disc without impressions; puncturation similar to that of the head. Elytra a little longer and wider than the thorax, longer than broad, puncturation rather coarse, close, and somewhat rugose, scantily pubescent. Abdomen slightly narrowed behind, more shining than the fore-parts, rather coarsely and closely punctured on the first four segments, more finely and sparingly behind; pubescence rather long and moderately close.

Nilgiri Hills (*H. L. Andrewes*).

Genus **STILIDERUS** Motsch.

Stiliderus Motsch., Bull. Mosc. xxxi, 1858, ii, p. 639; Fauv., Rev. d'Ent. vi, 1887, p. 233.

Styliderus Gemm. et Har., Cat. Col. ii, 1868, p. 623.

Facies of *Stilicis rufipes*, *similis*, *geniculatus*, etc., but the bilobed 4th tarsal joint sufficiently distinguishes it; it forms a natural step to the species of *Sunius* with convex thorax. Labrum transverse, divided in the middle and distinctly bilobed, its anterior margin with six little teeth. Mandibles stout, with three large teeth at the middle; 4th joint of the maxillary palpi very small, scarcely visible, the 3rd dilated, obtuse. Antennæ as long as the head and thorax together, the 1st joint not longer than the two following together, the 3rd a little longer than the 2nd. Head as broad as the elytra,

convex and rounded behind ; thorax a little narrower than the head, convex, oval, more strongly retracted in front ; elytra broader than long, obliquely emarginate behind ; abdomen a little dilated in the middle, a little convex, the last segment pointed, without visible appendages. Tarsi short and broad (ex *Motschoulsky*).

The above characters appear similar to those of *Psilotrachelus*, and, if so, this name becomes a synonym.

649. *Stiliderus cicatricosus*.

Stiliderus cicatricosus Motsch., Bull. Mosc. xxxi, 1858, ii, p. 639.

Size, build, and colour of *Stilicus affinis* Er., but with the palpi, antennæ, and legs entirely testaceous. Head more shining, puncturation less close, thorax more strongly granulate, the smooth median keel more marked, sinuate and then straightened on each side, forming two feeble keels a little oblique towards the centre one ; elytra a half shorter, with large deep punctures in rows ; abdomen almost smooth and sericeous, segments broadly bordered with yellow-brownish colour, each raised towards the middle of the posterior margin ; 6th ventral segment in the male triangularly excised. Winged.

"Ind. orientales" (ex *Motschoulsky*).

Genus *STILICUS* Latr.

Stilicus Latr., Encyc. Méth. x, 1825, p. 495 ; id., Règne Anim. iv, 1829, p. 436 ; Er., Käf. Mark. Brand. 1837-39 (1839), p. 519 ; id., Gen. Spec. Staph. 1839-40, p. 629 ; Lacord., Gen. Col. ii, 1854, p. 96 ; Kr., Naturg. Ins. Deutsch. ii, 1856-58, p. 696 ; Jacq. du Val, Gen. Col. d'Eur. ii, 1857-59, p. 47 ; Thoms., Skand. Col. ii, 1860, p. 202 ; Fauvel, Faune Gallo-Rhén. iii, 1872, p. 215 ; Lynch, Bol. Ac. Cord. vii, 1884, p. 272 ; Sharp, B. C.-A. i, 2, 1882-87 (1886), p. 581 ; Ganglb., Käf. Mitt. Eur. ii, 1895, p. 530 ; Casey, Trans. Ac. St. Louis, xv, 1905, p. 220.

Rugilus Curtis, Brit. Ent. iv, 1827, p. 168 ; Steph., Ill. Brit. Ent. Mand. v, 1832, p. 277 ; Boisd. et Lac., Faun. Ent. Paris, 1835, p. 433.

BIOLOGY.—Riley, Ins. Life, iii, nos. 7, 8, pp. 330-332 ; Ruportsberger, Biol. Lit. Käf. Eur. 1894, p. 126.

Subgen. *Stilicosoma* Casey, Trans. Ac. St. Louis, xv, 1905, p. 219.

Subconvex species with large head, very slender neck, short antennæ, narrow, more or less pentagonal thorax, and rather long legs. Gular sutures fused along the middle. Temples not bordered below. Labrum transverse, the anterior angles broadly rounded, in the middle with two teeth. Mandibles long, slender, curved, pointed, the right with four, the left with three strong pointed teeth internally. Maxillary lobes short and broad, densely ciliated internally. Maxillary palpi 4-jointed, the 1st joint very small, 2nd elongate, thickened apically, 3rd as long as the 2nd, more thickened towards apex, 4th small, subulate. Mentum very short, transverse.

Tongue membranous, completely divided into two narrow, widely separated test-shaped lobes, with several stiff setæ between the lobes. Paraglossæ well developed, extending beyond the tip of the tongue, closely ciliate. Labial palpi 3-jointed, the 1st joint short, obconical, 2nd stout, oval, 3rd slender, parallel sided, truncate at apex and about half as long as the 2nd. Prosternum large, its process strongly compressed laterally, not dilated behind, the epipleura large, triangular, well separated from the prosternum behind. Mesosternum narrowed to a neck in front with a little fossa on each side, in the middle with a larger and more superficial one; the process short, pointed, not extending far between the coxæ, there narrowly separated. Tibiæ ciliate, transversely truncate apically. Tarsi with simple 4th joint; anterior with the first four joints short, gradually decreasing in length; middle with the 1st joint about as long as the two following together, 2nd to 4th gradually decreasing in length; posterior with the 1st joint elongate, about as long as or longer than the two following together, 2nd to 4th gradually decreasing in length.

The species are found throughout the world in vegetable detritus, dead leaves, etc.

Key to the Species.

- | | |
|---|-------------------------------------|
| 1. Elytra with larger and smaller punctures. | 2. |
| Elytra uniformly punctured | 5. |
| 2. Larger (4·3 to 7 mm.). Elytra in great part dark | 3. |
| Smaller (2 to 2·4 mm.). Elytra brownish-yellow | 4. |
| 3. Larger (7 mm.). Antennæ and tibiæ pitchy; elytra dull | [p. 108. |
| Smaller (4·3 mm.). Antennæ and legs testaceous; elytra shining | <i>melancholicus</i> Schub., |
| 4. Head subquadrate | <i>rufescens</i> Shp., p. 108. |
| Head suborbicular | <i>pygmaeus</i> Kr., p. 109. |
| 5. Elytra unicolorous | <i>parvus</i> , sp. n., p. 109. |
| Elytra bicolorous | 6. |
| 6. Elytra black | 8. |
| Elytra yellow | 7. |
| 7. Elytra coarsely and closely punctured, very sparingly pubescent | <i>luteipennis</i> Kr., p. 107. |
| Elytra very finely and closely punctured, sericeous | <i>gracilis</i> Epp., p. 104. |
| 8. Elytra with posterior margin reddish-yellow | <i>sericeus</i> Motsch., p. 104. |
| Elytra in great part yellow | 9. |
| 9. Penultimate joints of antennæ at least as long as broad; sericeous species | 10. |
| Penultimate joints of antennæ transverse; | <i>velutinus</i> Fauv., p. 103. |
| 10. Elytra with posterior margin broadly black | <i>ceylanensis</i> Kr., p. 105. |
| Elytra with an obscure blackish mark at the posterior internal angle, the extreme | <i>plagiatus</i> Cam., p. 107. |
| behind | <i>simlaensis</i> , sp. n., p. 106. |

650. *Stilicus velutinus*. (Fig. 39.)

Stilicus velutinus Fauv., Rev. d'Ent. xiv, 1895, p. 226.

Black, dull; elytra and abdomen more shining, subæneous, the posterior margin of the former narrowly, the postero-external angles more broadly reddish-testaceous. Antennæ reddish-yellow. Legs yellow. Length 5.3 to 5.75 mm.

Head large, suborbicular, the base truncate, the posterior angles rounded, nearly as broad as the elytra, the eyes large, very closely, roughly, but rather finely sculptured, scarcely

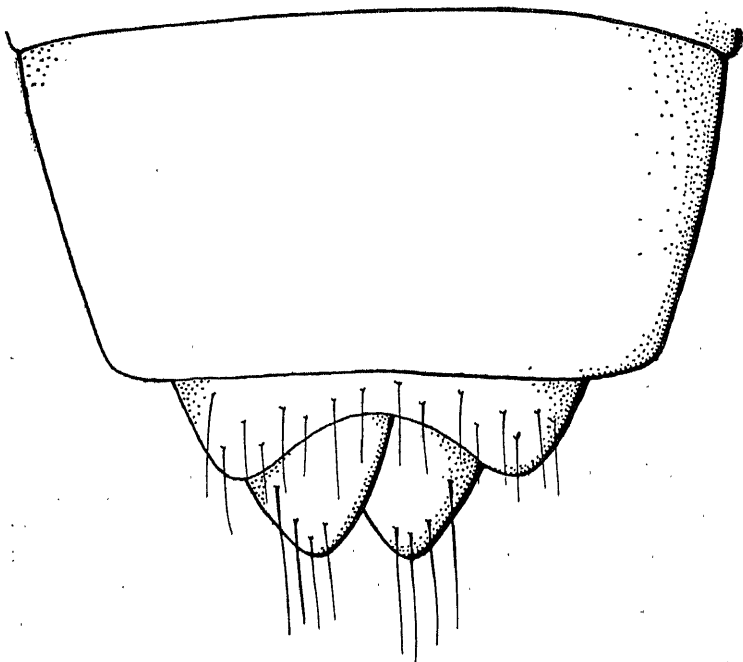


Fig. 39.—*Stilicus velutinus*, apex of abdomen of ♂ ; ventral surface.

perceptibly umbilicate. Antennæ with all the joints longer than broad, gradually decreasing in length, the 11th joint longer than the 10th. Thorax longer than broad, the anterior angles obtusely rounded, obliquely truncate to the neck, less strongly narrowed behind, with scarcely a trace of median line, before the base in the middle sometimes with a small transverse sulcus, the sculpture as on the head. Elytra scarcely longer, but broader than the thorax, quadrate, very finely and closely punctured and pubescent, sometimes with

a faint trace of two rows of larger punctures. Abdomen extremely finely and closely punctured and pubescent.

♂: 6th ventral segment obtusely excised, the apex of the excision rounded; 5th very slightly emarginate, the immediate neighbourhood glabrous.

Burma: Carin Asciuii Cheba; Carin Asciuii Ghécu. Sikkim: Darjeeling. United Provinces: Dehra Dun; Mussoorie; Chakrata, alt. 3000 to 6000 feet.

651. *Stilicus sericeus*.

Stilicus sericeus Motsch., Bull. Mosc. xxxi, 1858, ii, p. 640.

Size and build of *S. rufipes* (Europe). The colour not so blackish, that of the palpi, antennæ, and legs, on the contrary, more brownish. Puncturation extremely fine, clothed throughout with a thick, grey, silky pubescence. Head more narrowed in front, dull; mandibles very prominent; thorax more convex, the sides rounded and retracted towards the elytra, the smooth central line narrow, not abbreviated, elytra more square, the humeral angles more prominent; ligatures of the abdominal segments rather extensively brownish; pygidial segment furnished on each side with a slender horizontal spine, covered with long grey hairs. Antennæ longer than the head and thorax together, the 2nd joint as long as the 3rd.

"Indes orientales" (without further indication) (ex *Motschoulsky*).

652. *Stilicus gracilis*. (Fig. 40.)

Stilicus gracilis Epp., W. E. Z. xiv, 1895, p. 63.

Stilicus prælongus Cam., Trans. Ent. Soc. Lond. 1924, p. 182.

Elongate, black, moderately shining, head suborbicular; elytra and abdomen subæneous; antennæ short, ferruginous; femora reddish-brown, tibiæ and tarsi ferruginous. Length 6.2 mm.

Near *S. subtilis* Er., but differing in the narrower build, broader, more transverse head, larger more prominent eyes, narrower, more shining, more coarsely sculptured thorax with very distinct smooth central line, in the coarsely punctured elytra and the more finely punctured abdomen. Head large, suborbicular, broader than the elytra, the eyes large and rather prominent, the post-ocular region and the base coarctate, sculpture rather fine, irregularly longitudinally strigose, finely umbilicate; labrum 4-dentate, the two median teeth larger than the lateral. Antennæ short, the 3rd joint longer than the 2nd, 4th to 6th longer than broad, decreasing in length, 7th and 8th as long as broad, 9th and 10th slightly transverse. Thorax longer than broad, oval, with rather broad, shining, impunctate space in the middle line, abbreviated in front and

behind, the sculpture similar to that of the head. Elytra a little wider and a little longer than the thorax, much longer than broad, rather more shining than the thorax, moderately coarsely, closely punctured. Abdomen nearly parallel, extremely finely and moderately closely punctured and pubescent throughout, the bases of the anterior segments with coarse punctures.

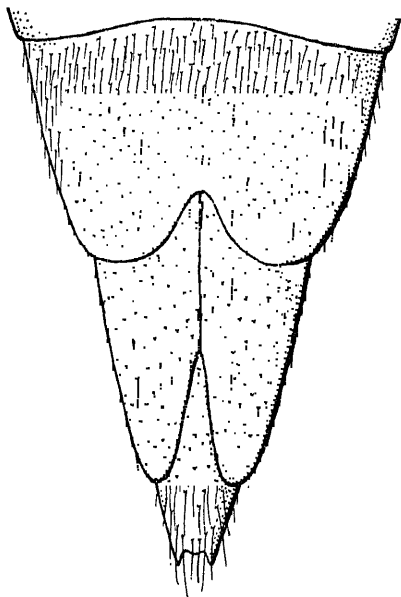


Fig. 40.—*Stilicus gracilis*, apex of abdomen of ♂ ;
ventral surface.

♂ : 6th ventral segment with rather deep acute triangular excision, the apex rounded ; 5th with feeble emargination, in front of the emargination glabrous.

Simla Hills : Narkanda, alt. 7000 to 9000 feet.

653 *Stilicus ceylanensis*. (Fig. 41.)

Stilicus ceylanensis Kr.*, Arch. Naturg. xxv, 1859, i, p. 126.

Head and thorax dull, black or dark reddish-brown, elytra and abdomen more shining, the former pitchy with slight greenish reflex, the posterior margin and sometimes the humeral angles reddish-yellow, occasionally the whole elytra reddish-yellow. Antennæ reddish-yellow. Legs yellow. Length 4 to 4.75 mm.

Colour, build, and antennal structure of *S. rufescens*, but the thorax narrower at the anterior angles, the elytra less closely punctured, and without trace of larger punctures on the disc.

♂: 6th ventral segment with broad, rather shallow, arcuate emargination.

Ceylon: Dikoya. India: Nilgiri Hills; Naga Hills; Dehra Dun; Siwaliks.

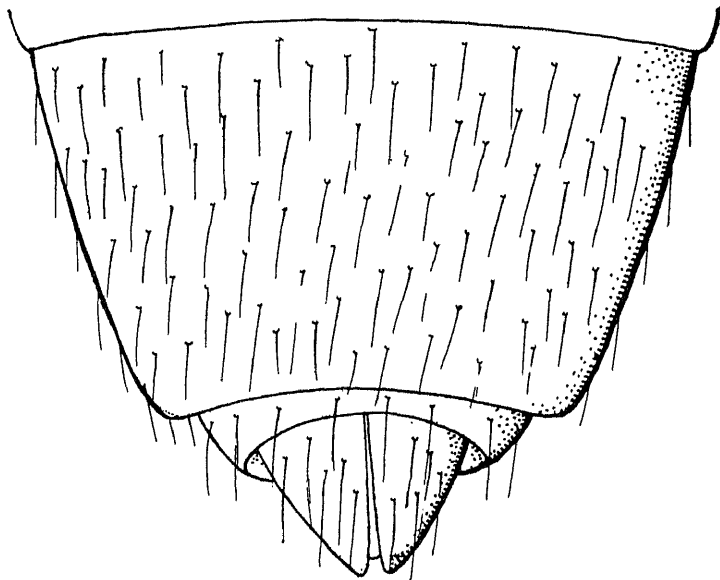


Fig. 41.—*Stilicus ceylanensis*, apex of abdomen of ♂; ventral surface.

654. *Stilicus simlaensis*, sp. n.

Head and thorax black, dull; elytra yellow or brownish-yellow, with a small indeterminate blackish spot at the postero-internal angle; abdomen black, a little shining. Antennæ reddish-brown. Legs reddish-yellow. Length 4.5 mm.

Size, build, etc., of *S. ceylanensis*, but differs in the longer antennæ, the 7th to 8th joints less transverse, the 10th fully as long as broad, thorax at the base on each side with a shallow impression, elytra a little less finely and a little more closely punctured, and the coloration.

♂: 6th ventral segment with a broad, shallow, arcuate emargination as in *ceylanensis*.

Simla Hills: Gahan. Chakrata and Mussoorie districts, alt. 6000 to 7000 feet.

655. *Stilicus plagiatus*. (Plate I. fig. 8.)

Stilicus plagiatus Cam., Trans. Ent. Soc. Lond. 1924, p. 181.

Black, opaque, abdomen brown; elytra shining, largely testaceous; antennæ short, ferruginous; legs testaceous. Length 5.5 mm.

Build of *S. ceylanensis*, but larger and more robust, the antennæ longer and the colour different. Head black, opaque, suborbicular, nearly as broad as the elytra, eyes moderate, the posterior angles broadly rounded, the base slightly emarginate; sculpture dense, fine and umbilicate. Antennæ with the 3rd joint longer than 2nd, 4th to 8th longer than broad, decreasing in length, 9th and 10th as long as broad. Thorax narrower than the head, widest at the rounded anterior angles, from thence obliquely truncate to the neck, posteriorly more gradually narrowed in a straight line; disc without trace of raised line, the whole surface sculptured like the head, but more coarsely. Elytra a little broader and longer than the thorax, as long as broad, the base, shoulder and greater part of the disc testaceous, the epipleura (nearly to the shoulder), posterior border and postero-external angle broadly blackish, sometimes with the extreme apical margin and the apex of the postero-external angle testaceous, rather finely and closely punctured. Abdomen pitchy-brown, extremely finely and closely punctured and pubescent throughout.

♂: Head broader, more transverse. 5th and 6th ventral segments broadly, slightly arcuately emarginate.

Dehra Dun. I have only found this species frequenting the broken comb after excavating the nests of *Hodotermes obesus*.

656. *Stilicus luteipennis*.

Stilicus luteipennis Kr.*, Arch. Naturg. xxv, 1859, i, p. 126.

Head and thorax dull, dark reddish; elytra pale yellow, more shining; abdomen pitchy. Antennæ and legs reddish. Length 5 mm.

Differs from *S. rufescens* in the larger size, broader head, the thorax rather wider in front, the entirely pale yellow elytra, which are less closely punctured and without trace of larger punctures. Head suborbicular, as broad as the elytra, with close, rather fine but rough umbilicate sculpture. Antennæ short, the 3rd joint scarcely longer than the 2nd, the 5th to 10th transverse. Thorax a little longer than broad, narrowed behind, the anterior angles obtusely rounded, before the middle of the base with trace of smooth shining line, sculpture as on the head. Elytra a little longer and broader than the thorax, very finely, not very closely punctured, finely yellow pubescent. Abdomen very finely and closely punctured and pubescent.

Ceylon.

657. *Stilicus melancholicus*.

Stilicus melancholicus Schub., D. E. Z. 1911, p. 10.

Black, dull, the mouth, antennæ, tibiæ and tarsi pitchy; thorax subcarinate, elytra sparingly, rather strongly punctured. Length 7 mm. Lat. $1\frac{1}{4}$ mm.

Distinguished by the very fine, dense puncturation and the elytra also with large, deep, sparing punctures. Antennæ moderately stout, shorter than the head and thorax, a little thickened towards the apex, the 3rd joint distinctly longer than the 2nd, the 4th a little shorter, the following becoming gradually shorter but very little broader, the penultimate joints not transverse, the 11th a little larger. Head orbicular, slightly convex, distinctly broader and larger than the thorax, as broad as the elytra, evenly, extremely finely, densely, but very distinctly punctured, the antennal tubercles slightly elevated. Thorax scarcely as long as the head, narrower than the head and elytra, as long as broad, parallel-sided, rounded behind, in front narrowed in a straight line, the puncturation as dense as on the head, but a little coarser and slightly rugose, the middle with a little raised, shining, not sulcate line abbreviated in front and behind, on each side with a very slight longitudinal impression, the posterior angles with a short distinct impression, the posterior angles briefly, the anterior broadly rounded. Elytra scarcely longer than the thorax, as long as broad, parallel, slightly narrowed towards the apex, rather depressed, very finely bordered, more finely and more closely punctured than the head and thorax and with some large, deep, very sparing punctures, on the epipleura more closely and more finely punctured, in front broadly, behind more narrowly reddish, quite dull and slightly metallic. Abdomen black, extremely finely and closely punctured, dull, the anterior segments rather strongly impressed. Legs dark, with reddish tibiæ and tarsi.

Madura; Shembaganur (ex *Schubert*).

658. *Stilicus rufescens*.

Stilicus rufescens S. J., Trans. Ent. Soc. Lond. 1874, p. 61.

Stilicus rufescens D. E. Z. 1885, p. 121.

Stilicus rufescens indicus Cam., Trans. Ent. Soc. Lond. 1914, p. 542.

Head and thorax dull red, elytra copper-bronze, slightly shining, with apical margins and postero-external angles testaceous; abdomen pitchy. Antennæ, palpi, and legs reddish-testaceous. Length 4.3 mm.

Var. *indicus* differs from the type-form in the black head and thorax.

In size and build similar to *S. ceylanensis* Kr., but differs by the less shining, much more closely punctured elytra, which have also irregular large punctures on the disc.

Head large, transverse, as broad as the elytra, temples gradually converging behind, posterior angles rounded, densely punctured. Antennæ with 4th joint longer than broad, 5th to 7th moniliform, 8th to 10th transverse. Thorax longer than broad, anterior angles distinct, obtuse, sides rather strongly narrowed backwards, puncturation coarser than that of the head, disc without smooth central line. Elytra a little longer than the thorax, as long as broad, finely and rather closely punctured, with some very irregular, larger punctures on the disc; finely pubescent. Abdomen rather closely and finely punctured and pubescent.

♂: 6th ventral segment broadly, slightly emarginate.

Ceylon. Nilgiri Hills. Mussoorie. Burma. Widely distributed in the Oriental Region to Japan, also on the west and east coasts of Africa.

The var. *indicus* is the commoner form in India.

659. *Stilicus pygmæus*.

Stilicus pygmæus Kr.*, Arch. Naturg. xxv, 1859, i, p. 126.

Head and thorax dull, elytra and abdomen more shining. Head black, thorax obscure red, elytra brownish-yellow, abdomen pitchy. Antennæ reddish. Legs yellow. Length 2 to 2.4 mm.

Head subquadrate, nearly as broad as the elytra, the base truncate, the posterior angles rounded, densely coriaceous, with fine circular more or less contiguous shining lines replacing the reticulate sculpture usually found in the genus, the centre and interspaces between these lines being quite dull and coriaceous. Antennæ short, the first two joints shorter than the following, the 3rd to 6th a little longer than broad, gradually decreasing in length, the 7th to 10th slightly transverse, 11th oval, pointed, a little shorter than the two preceding together. Thorax a little longer than broad, strongly narrowed behind, the anterior angles obtuse, rounded, the sculpture as on the head, except along the middle line, which is simply coriaceous. Elytra a little longer and broader than the thorax, rather closely, asperately punctured, with two obscure rows of slightly larger punctures. Abdomen closely and finely punctured and pubescent throughout, the bases of the segments more coarsely punctured.

♂: 6th ventral segment emarginate.

Ceylon. Also in the Federated Malay States, Saigon and Timor.

660. *Stilicus parvus*, sp. n.

Very closely allied to *S. pygmæus*, of similar colour and size, but the head is less quadrate, the posterior angles more broadly rounded, narrower than the elytra, the sculpture, especially on

the thorax, shows fewer shining circular lines, so that it is more uniformly coriaceous; in other respects the two insects are similar.

Dehra Dun. Chakrata district: Saiya.

Genus **STILICODERUS** Sharp.

Stilicoderus Sharp, Ann. Mag. Nat. Hist. (6) iii, 1889, p. 320; Fauv., Rev. d'Ent. xiv, 1895, p. 226.

Facies of a large *Stilicus* or *Psilotrachelus*, and further resembling the latter in the granular sculpture of the thorax and the coarsely, serially punctured elytra. Head with very narrow neck. Gular sutures fused except for a short distance in front. Temples not margined below. Labrum transverse, the anterior angles broadly rounded, in front in the middle tridentate, the median tooth keeled, the keel extending backwards on to the body of the labrum for a short distance. Mandibles stout, curved, pointed, the right with three, the left with four strong bluntly pointed teeth. The rest of the mouth-parts are similar to those of *Psilotrachelus*. Prosternum long and broad, carinate between the coxæ; epipleura large, triangular, widely separated from the prosternum behind; meso- and metasterna scarcely differing from *Psilotrachelus*; abdomen keeled below at the base. Tibiæ finely setose; tarsi 5-jointed, the joints short, decreasing in length to the simple 4th, the 5th longer; the anterior not dilated in the male.

Key to the Species.

- | | |
|--|-----------------------------------|
| 1. Legs bright reddish-yellow, the apices of the femora and of the tibiæ black .. | <i>fenestratus</i> Fauv., p. 112. |
| Legs blackish or reddish-brown | 2. |
| 2. Sculpture of the thorax consisting of flattened granules closely placed and each with a little puncture | 3. |
| Sculpture of thorax consisting of close longitudinal vermicular rugæ | <i>discalis</i> Fauv., p. 112. |
| 3. Thorax distinctly emarginate before the posterior angles; elytra shining. Larger (8 to 8.75 mm.) | <i>feæ</i> Fauv., p. 110. |
| Thorax not emarginate before the posterior angles; elytra nearly opaque. Smaller (7 mm.) | <i>umbratus</i> Fauv., p. 114. |

661. *Stilicoderus feæ*. (Fig. 42.)

Stilicoderus feæ Fauv.*, Rev. d'Ent. xiv, 1895, p. 224.

Black, the elytra ferruginous-red, about the scutellum and postero-external angles infusate. Head and thorax a little, the elytra more, shining; abdomen sericeous. Antennæ black, the last two or three joints reddish. Legs dark red. Length 8 to 8.75 mm.

Facies of the European *Stilicurus rufipes* Gr., but much larger. Head transverse, suborbicular, broader than the thorax, the post-ocular region rounded with the base, the eyes rather small, not prominent, behind the antennal tubercles with a small impression, closely and moderately finely punctured. Antennæ reaching the base of the thorax, the 3rd joint much longer than the 2nd, 4th to 6th longer than broad, equal, 7th to 10th a little longer than broad, gradually decreasing in length, 9th and 10th equal, 11th oval, pointed. Thorax a little longer than broad, the anterior angles obtuse, in front on each side obliquely truncate to the neck, the sides straight and

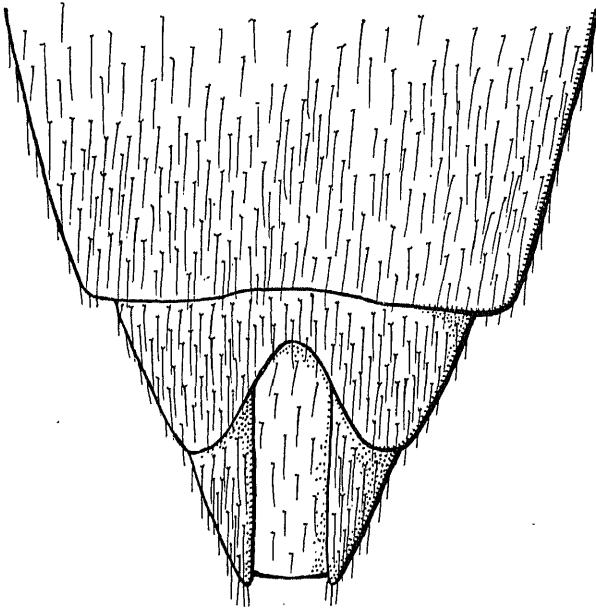


Fig. 42.—*Stilicoderus feæ*, apex of abdomen of ♂ ;
ventral surface.

slightly retracted behind to a little before the posterior angles, then distinctly emarginate, obtusely angulate before the angles. Along the whole of the middle with rather broad, smooth, shining line, the rest of the surface closely covered with flat granules each with a minute puncture. Elytra scarcely as long as the thorax, transverse, the sides a little rounded, the disc flattened, with irregular rows of rather coarse, close punctures except about the postero-external

angles, and a very fine and not very close interstitial puncturation. Abdomen very finely and closely punctured and pubescent, sericeous. The fore-parts more coarsely and much more sparingly pubescent.

♂: 6th ventral segment rather broadly, deeply, arcuately excised; 5th scarcely emarginate.

Burma: Carin Ghécú; Carin Asciiui Ghécú, 1300 to 1500 metres. Mussoorie district, alt. 6000 to 7000 feet in the vicinity of streams.

662. *Stilicoderus discalis*.

Stilicoderus discalis Fauv.*, Rev. d'Ent. xiv, 1895, p. 225.

Stilicus subseriatus Epp.*, D. E. Z. 1895, p. 403.

Black, nearly opaque, the elytra dirty yellowish-red, the base, scutellary region, suture (narrowly) and posterior margin black. Antennæ pitchy. Legs pitchy or obscurely reddish. Length 6.2 to 7.75 mm.

Smaller than *S. fœæ*, the head and thorax more opaque, shorter and broader, the antennæ shorter, the sculpture of the thorax different. Head short, transverse, broader than the thorax, the post-ocular region scarcely coarctate with the base, transversely impressed on each side behind the antennal tubercles, very closely and moderately finely punctured. Antennæ with the 3rd joint longer than the 2nd, 4th to 6th a little longer than broad, the penultimate as long as broad. Thorax scarcely longer than broad, trapezoidal, the anterior angles obtuse, the sides straight to just before the posterior angles, then with small emargination before the base; along the middle with a rather broad raised shining line, the sculpture consisting of rather fine vermicular more or less interrupted, closely placed rugæ, formed from coalesced granules, finely punctured. Elytra as long as, but broader than the thorax, scarcely transverse, with irregular rows of large, close punctures and an extremely fine, moderately close puncturation between. Abdomen finely and moderately closely punctured, densely pubescent, sericeous.

♂: 6th ventral segment with acute triangular excision; 5th in the middle before the posterior margin with a round impression.

Burma: Carin Asciiui Ghécú; Pegu.

663. *Stilicoderus fenestratus*. (Fig. 43.)

Stilicoderus fenestratus Fauv., Rev. d'Ent. xiv, 1895, p. 225.

Black; head, elytra, and abdomen a little shining, thorax nearly opaque. Elytra each with a rounded orange spot before the middle. Antennæ ferruginous, the 1st joint pitchy-black. Legs reddish-yellow, the apex of the femora

broadly, the apex of the tibiae narrowly black. Length 6.75 mm.

Narrower and more shining than *S. discalis*, very distinct by the colour of the legs. Head orbicular, broader than the thorax, transversely impressed on each side behind the antennal tubercle, closely and moderately finely punctured. Antennæ rather short, the 3rd joint longer than the 2nd, 4th to 6th longer than broad, gradually decreasing in length, 7th to 10th about as long as broad. Thorax a little longer than broad, the sides straight and slightly retracted to just before the

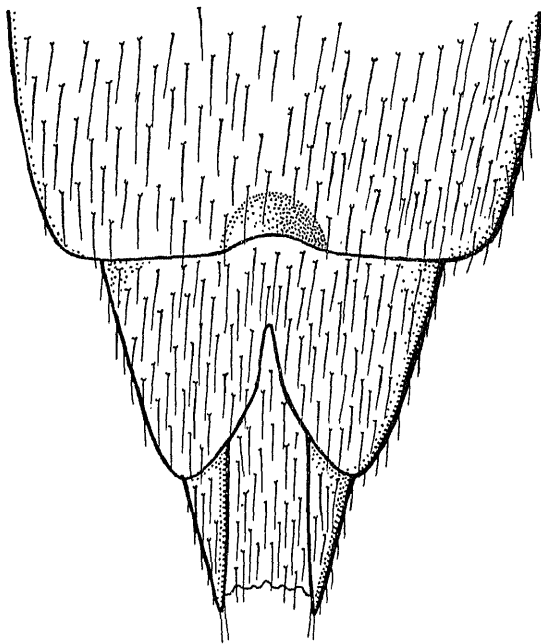


Fig. 43.—*Stilicoderus fenestratus*, apex of abdomen of ♂ ; ventral surface.

posterior angles, and then obliquely truncate to the base, along the middle with smooth raised shining line, the sculpture as in *S. fecæ*. Elytra scarcely as long as the thorax, but broader, quadrate, with rows of rather coarse close punctures and a fine moderately close interstitial puncturation. Abdomen very finely and closely punctured and pubescent throughout, not coriaceous.

♂ : 6th ventral segment deeply, acutely excised, the margins raised ; 5th feebly emarginate, slightly impressed in front of the emargination.

Burma : Carin Asciiu Ghécu, alt. 1400 to 1500 metres.
 Assam : Naga Hills. Mussoorie and Chakrata districts, alt.
 6000 to 7000 feet. Near running water.

664. *Stilicoderus umbratus*.

Stilicoderus umbratus Fauv.*, Rev. d'Ent. xxiii, 1904, p. 52.

Black, nearly opaque, the elytra each with an indeterminate reddish spot in front. Antennæ and legs dark reddish-brown. Length 7 mm.

Near *S. fenestratus* but more opaque, the legs differently coloured and the elytral mark more obscure. Head nearly orbicular, broader than the thorax, the eyes rather small, closely and moderately finely punctured. Antennæ rather short, the 3rd joint distinctly longer than the 2nd, 4th a little shorter, a good deal longer than the following, 5th a little longer than broad, 6th to 10th as long as broad. Thorax scarcely longer than broad, in front obliquely truncate to the neck, the anterior angles obtuse, the sides straight and gently retracted to a little before the posterior angles, thence obliquely truncate to the base ; along the middle with rather narrow, smooth, shining line, not quite reaching the base and evanescent in front, the sculpture consisting of close flat granules each with a minute puncture. Elytra as long as but a little broader than the thorax, quadrate, with irregular rows of closely placed, rather large punctures, not reaching the apex, and a much finer, rather close interstitial puncturation. Abdomen densely and finely punctured, coriaceous, finely pubescent.

♂ : unknown.

Nilgiri Hills.

Genus **PSILOTRACHELUS** Kraatz.

Psilotrachelus Kraatz, Arch. Naturg. xxv, 1859, i, p. 124.

Robust, more or less convex species with narrow neck and facies recalling *Stilicus*, the thorax with granular sculpture, the elytra very coarsely punctured. Gular sutures narrowly separated in front, gradually approaching behind and fused near the base. Temples strongly and completely bordered below. Labrum transverse, the anterior angles broadly rounded, in the middle with moderately broad emargination, the fundus of which is furnished with a small triangular tooth, on each side of the emargination with two similar teeth. Mentum transverse, trapezoidal. Tongue broad, membranous, deeply, rather broadly excised throughout, the lobes so formed rounded. Paraglossæ well developed, long, densely ciliate within, and extending beyond the tongue. Labial palpi

3-jointed, the 1st joint scarcely longer than broad, 2nd elongate, oval, broader than the 1st, 3rd much narrower, about half as long as the 2nd, parallel-sided, the apex truncate. Inner and outer lobes of the maxilla densely ciliate internally. Maxillary palpi 4-jointed, the 1st joint very small, 2nd elongate, gradually thickened towards apex, 3rd oval, longer than the 2nd, 4th small, subulate. Mandibles stout, curved, pointed, each with three strong sharp teeth internally. Prosternum long and broad, keeled along the middle, not much dilated behind, its process pointed, the epipleura large, triangular, the apices well separated from the prosternum behind. Mesosternum in front narrowed to a neck, with three fossæ, one on each side in front and one larger median behind, its process narrow, acute, carinate, extending about half the length of the coxæ, these narrowly separated. Metasternal process acute, meeting the mesosternal between the posterior coxæ with a small emargination. Abdomen keeled below at the base, the sides bordered above, the apex without conspicuous styles. Legs rather stout, the tibiæ ciliate. Tarsi short, 5-jointed, the 1st joint a little longer than the 2nd, 2nd and 3rd short, 4th larger, bilobed, 5th short, the claws slender. The species are found in damp debris, and so far are only known from the Oriental Region. Two species are found in our Fauna. It is perhaps identical with *Stiliderus*.

Key to the Species.

1. Anterior angles of the thorax denticiform, thorax keeled behind in the middle *crassus* Kr., p. 115.
- Anterior angles of the thorax completely rounded, thorax keeled throughout *sculptipennis* Kr., p. 117.

665. *Psilotrachelus crassus*. (Fig. 44.)

Psilotrachelus crassus Kr., Arch. Naturg. xxv, 1850, i, p. 124.

Black, subopaque, the head and elytra a little shining. Thorax granular, with shining keel behind in the middle; elytra subserially, coarsely punctured. Antennæ reddish, the middle joints more or less infusate. Palpi and legs reddish-yellow. Length 5 mm.

Head short, transversely suborbicular, almost as broad as the elytra, the eyes rather small, the post-ocular region broadly rounded, in the middle of the front with a small longitudinal impression, closely, moderately finely punctured. Antennæ short, the 3rd joint longer than the 2nd, 5th and 6th about as long as broad, 7th to 10th distinctly transverse. Thorax a little longer than broad, narrower than the head and elytra, widest in front at the dentate anterior angles, gradually narrowed behind, in front obliquely truncate to the neck, in the middle of the posterior half with a shining keel, on each side slightly

impressed longitudinally, more externally with a short oblique impression, the whole surface thickly studded with granules, each with a little puncture bearing a fine hair. Elytra transverse, scarcely as long as the thorax, with rows of large closely placed punctures, the interspaces finely granular, finely yellow

Fig. 44.

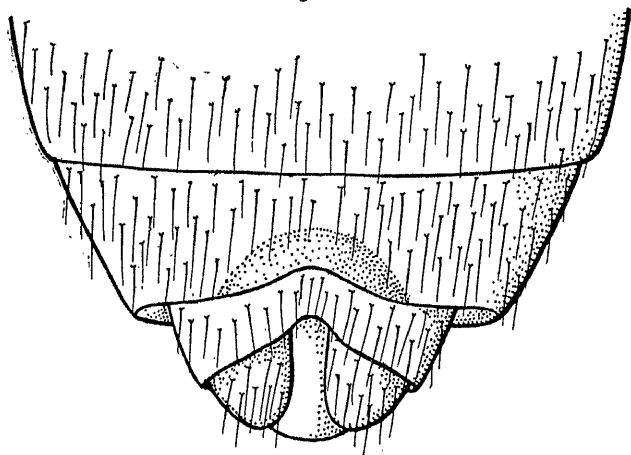


Fig. 45.

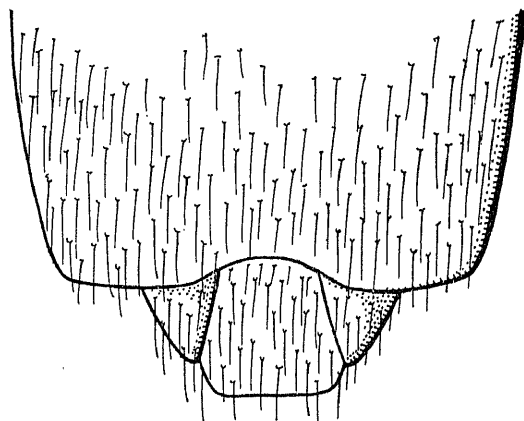


Fig. 44.—*Psilotrachelus crassus*, apex of abdomen of ♂; ventral surface.

Fig. 45.—*Psilotrachelus sculptipennis*, apex of abdomen of ♂; ventral surface.

pubescent. Abdomen stout, very finely and closely punctured and pubescent throughout.

♂: 6th ventral segment with small rounded excision; 5th slightly, moderately broadly, arcuately emarginate.

Ceylon. Also in Singapore.

666. *Psilotrachelus sculptipennis*. (Fig. 45.)

Psilotrachelus sculptipennis Kr., Arch. Naturg. xxv, 1859, i, p. 125.

Very similar to *P. crassus*, of the same colour and size, but differing in the following respects: the head is narrower, distinctly narrower than the elytra, the thorax scarcely longer than broad, the anterior angles broadly and completely rounded, the median keel narrower and not abbreviated in front, without basal and lateral impressions. Elytra with smooth spaces between the large punctures.

♂: 6th ventral segment deeply, rather broadly but acutely excised, the apex of the excision rounded; 5th slightly, moderately broadly, arcuately emarginate.

Dehra Dun. Siwaliks. Mussoorie district.

Genus **THINCHARIS** Kraatz.

Thincharis Kraatz, Arch. Naturg. xxv, 1859, i, p. 142.

Small and obscure species with the facies of *Medon*, but with the first two joints of the antennæ thickened, the following very slender in comparison. Neck moderately broad, gular sutures parallel. Labrum transverse, the sides and anterior angles broadly rounded, in the middle with a very small emargination, along a narrow median area between this and the base less strongly chitinized and so more transparent, but not bilobed as stated by Kraatz. Mandibles rather stout at the base, curved, more slender and pointed at the apex, the right with four, the left with three short, strong, pointed teeth. Inner and outer lobes of the maxilla short, densely ciliated internally. Maxillary palpi 4-jointed, the 1st joint minute, 2nd short, thickened apically, 3rd a little longer and much thicker apically than the 2nd, 4th minute, subulate. Mentum transverse, trapezoidal. Tongue broad, membranous, divided to the base by a rather broad excision into two completely separated lobes, the interval not setose. Paraglossæ not extending beyond the apex of the tongue, ciliate. Labial palpi 3-jointed, short, the 1st joint transverse, 2nd stout, oval, 3rd very narrow, parallel-sided, truncate at apex, about half as long as the 2nd. Prosternum rather short, not dilated behind, its process short and acute; epimera rather narrow, triangular, their apices widely separated from the prosternal process. Mesosternum produced into a neck in front, behind the anterior margin with transverse sinuate keel; its process short, pointed, extending but little between the coxæ, these contiguous. Tibiæ ciliate. Tarsi short, the 4th joints simple, the 1st not much longer than the 2nd, the following short and subequal, 5th longer.

The genus appears to be restricted to the Oriental Region; the species are found in decaying wood, fungus, etc. The

somewhat similar tropical American species belong to the genus *Sciocharis* Lynch, and are distinguished by the bidentate labrum.

Key to the Species.

- | | |
|---|-------------------------------------|
| 1. Thorax red or reddish-yellow..... | 2. |
| Thorax pitchy or blackish; elytra brownish-yellow or blackish..... | 5. |
| 2. Elytra black | <i>ruficollis</i> , sp. n., p. 120. |
| Elytra yellow or brownish-yellow | 3. |
| 3. Larger (2.1 to 2.5 mm.) and more robust; head reddish-brown..... | 4. |
| Smaller (1.8 mm.) and narrower; head black | <i>debilis</i> , sp. n., p. 119. |
| 4. Larger and more robust (2.5 mm.); elytra longer, extensively infuscate | <i>birmana</i> , sp. n., p. 118. |
| Smaller and narrower (2.1 mm.); elytra shorter, yellow | <i>carinicollis</i> Kr., p. 118. |
| 5. Head subovate..... | <i>pygmaea</i> Kr., p. 120. |
| Head subquadrate..... | 6. |
| 6. Thorax very finely and very closely punctured | <i>nigricans</i> Cam., p. 119. |
| Thorax less finely and less closely punctured | <i>nigrescens</i> , sp. n., p. 117. |

667. *Thiniocharis carinicollis*.

Thiniocharis carinicollis Kr., Arch. Naturg. xxv, 1859, i, p. 143.

Greasy lustrous; head pitchy or reddish, thorax yellowish-red, elytra yellow, abdomen brown. Antennæ, palpi, and legs yellow. Length 2.1 mm.

Head square, broader than the thorax, temples parallel, the posterior angles briefly rounded, eyes rather small; extremely finely and closely punctured. Antennæ with the penultimate joints slightly longer than broad. Thorax as long as broad, widest at the obtusely rounded anterior angles, the sides straight, slightly retracted behind, in front obliquely truncate to the neck, along the middle with a narrow, slightly elevated, impunctate and more shining line, the rest of the surface very finely (less finely than the head) and closely punctured. Elytra a third longer and a little broader than the thorax, closely but a good deal less finely punctured. Abdomen extremely finely, closely punctured. The whole insect finely pubescent.

Ceylon. Also in Singapore and Malay Peninsula.

668. *Thiniocharis birmana*, sp. n.

Very similar to *T. carinicollis*, but larger (2.5 mm.) and more robust, the elytra half as long again as the thorax and extensively infuscate behind; the puncturation is less fine. The head in the two specimens before me is reddish-brown.

Burma: Tenasserim; Tavoy (*Doherty*).

669. *Thinocharis debilis*, sp. n.

A little shining; head black, thorax reddish-yellow, elytra yellowish-brown, abdomen brown, the posterior margins of the segments lighter. Antennæ and legs yellow. Length 1.8 mm.

Somewhat similar in colour to *T. carinicornis*, but smaller, the head smaller and less quadrate, a little dilated behind the eyes, which are smaller, the puncturation yet finer and not quite so close. Thorax narrower, less narrowed behind, the puncturation finer, elytra more finely punctured, a little longer than the thorax.

Siwaliks: Nakraunda.

670. *Thinocharis nigricans*.

Thinocharis nigricans Cam., Trans. Ent. Soc. Lond. 1919, p. 73.

Moderately shining, densely and finely punctured; pitchy-black, head square, thorax pitchy-brown; antennæ, palpi, and legs testaceous. Length 2 mm.

Smaller and narrower than *T. carinicornis* Kr., and differently coloured. Head as broad as long, quadrate, occasionally with median sulcus in front, eyes small; temples long, scarcely dilated, gradually passing into the rounded posterior angles; base scarcely emarginate, impressed in front in the middle; puncturation very close and fine, much closer and finer than in *T. carinicornis* Kr. Antennæ with the first two joints much thicker than the following, the 3rd to the 6th longer than broad, subequal, 7th a little shorter than the 6th, 8th to 10th short, scarcely longer than broad, 11th oblong-ovate. Thorax pitchy-brown, narrower than in *T. carinicornis* Kr., slightly longer than broad, scarcely as wide as the head; anterior angles more rounded than in *T. carinicornis* Kr.; disc with a narrow elevated line, which is finely grooved, obsoletely impressed on either side; puncturation less fine than that of the head. Elytra black, a little longer than the thorax, parallel, longer than broad, densely and finely punctured and pubescent. Abdomen black, apex of last segment brown, closely and finely punctured and pubescent, but much less so than the fore-parts.

Burma: Tenasserim. Also in Singapore, Penang, and the Malay Peninsula.

671. *Thinocharis nigrescens*, sp. n.

Very near *T. nigricans*, but differing in the narrower, scarcely impressed, less finely punctured head, less finely and less closely punctured thorax and elytra.

Siwaliks: Kheri Rau; Mohan Rau. Dehra Dun. Mussoorie district: Arni Gad.

672. *Thinocharis ruficollis*, sp. n.

Greasy lustrous; head black, elytra black or pitchy-black, thorax red, abdomen yellowish-brown. Antennæ, palpi, and legs yellow. Length 2.1 mm.

Differs from *T. carinicornis* in the colour and the smaller, less quadrate head. Head as broad as long, slightly rounded and widened behind the eyes, as broad as the thorax, extremely finely and closely punctured; eyes small. Antennæ with the 3rd to 9th joints longer than broad, gradually decreasing in length, the 10th scarcely longer than broad. Thorax as long as broad, the sides nearly parallel, the posterior angles broadly rounded, the anterior more obtuse, along the middle with a very fine, impunctate, more shining line, elsewhere with puncturation as close as but less fine than that of the head. Elytra a little longer and broader than the thorax, as closely but less finely punctured. Abdomen extremely finely and closely punctured. The whole insect finely grey pubescent.

Mussoorie district: Arni Gad, Kemti Falls.

673. *Thinocharis pygmaea*.

Thinocharis pygmaea Kr.*, Arch. Naturg. xxv, 1859, i, p. 143, tab. 2, fig. 9 a-c.

Greasy lustrous; head black, thorax reddish-brown, elytra brownish-yellow, abdomen brown. Antennæ, palpi, and legs yellow. Length 1.8 mm.

Head a little longer than broad, subovate, as broad as the thorax, the posterior angles broadly rounded, extremely finely and closely punctured. Antennæ as in *carinicornis*. Thorax as long as broad, slightly narrowed behind, along the middle with fine, more shining, impunctate line, the rest of the surface extremely finely and closely punctured. Elytra a little longer than the thorax, closely but less finely punctured. Abdomen closely and finely punctured. The whole insect finely pubescent.

Ceylon. Dehra Dun. Siwaliks: Nakraunda. Also in Penang, Singapore, and Southern China.

Genus *ACANTHOGLOSSA* Kr.

Acanthoglossa Kr., Arch. Naturg. xxv, 1859, i, p. 144; Fauv.,

Rev. d'Ent. xx, 1901, p. 250, xxi, 1902, p. 87; Sharp,

B. C.-A. i, 2, 1882-87 (1886), p. 606.

Cephus Fauv., Faune Gallo-Rhén. iii, 1872, p. 299 (note).

Medon Shp., Ann. Mag. Nat. Hist. (6) iii, 1889, p. 319.

Very closely allied to *Medon* and only differing from it in the following respects: the 5th tarsal joint is inserted near the base of the 4th, and overlies it so that viewed from above it appears bilobed and seen from the side as a plate below the 5th; the 3rd joint of the maxillary palpi is much more dilated and pear-shaped. The habits are similar to *Medon*.

Key to the Species.

- | | |
|--|------------------------------------|
| 1. Sculpture of thorax consisting of granules | <i>rufa</i> Kr., p. 121. |
| Sculpture of thorax consisting of punctures | 2. |
| 2. Head and thorax with reticulate umbilicate sculpture. | <i>brachycera</i> Kr., p. 122. |
| Head and thorax with umbilicate punctures | 3. |
| 3. Species covered with long, coarse, erect yellow hairs | <i>hirta</i> Kr., p. 122. |
| Species with normal short, fine, decumbent hairs. | <i>testaceipennis</i> Kr., p. 121. |

674. *Acanthoglossa rufa*.

Acanthoglossa rufa Kr.*, Arch. Naturg. xxv, 1859, i, p. 146.

Moderately shining; head and thorax red or yellowish-red, elytra yellow, abdomen brown. Antennæ, palpi, and legs yellow. Length 2·2 mm.

Head subquadrate, as long as but broader than the thorax, the eyes small, much shorter than the temples, the posterior angles briefly rounded, the base truncate, along the middle with fine impunctate line, with close, moderately coarse, umbilicate punctures. Antennæ short, the 2nd and 3rd joints subequal, 4th a little longer than broad, 5th and 6th as long as broad, 7th to 10th transverse, gradually increasing in width. Thorax slightly transverse, trapezoidal, convex, the sides straight and retracted behind, the posterior angles rounded, along the whole of the middle with smooth, subelevated line, the rest of the surface rather closely covered with small granules, each with a minute puncture, towards the anterior angles without sculpture. Elytra a little longer and broader than the thorax, rather finely, moderately closely punctured. Abdomen a little narrowed at the base and apex, finely and moderately closely punctured, the pubescence rather long and coarse, greyish. The fore-parts with much finer and less visible pubescence.

Ceylon. Also in Aden and East Africa.

675. *Acanthoglossa testaceipennis*.

Acanthoglossa testaceipennis Kr.*, Arch. Naturg. xxv, 1859, i, p. 145.

Rather shining; head and thorax red, elytra reddish-yellow. Antennæ reddish-yellow. Legs yellow. Length 3 mm.

Larger and more robust than *A. rufa*, very similar in build, the thorax in the middle with a fine keel behind only, punctured and not granular. Head large, subquadrate, as long as, but broader than the thorax, the eyes small, the temples parallel, the posterior angles nearly rectangular, the base truncate, without smooth median line, with close, moderately coarse umbilicate punctures. Antennæ with the 4th to 6th

joints subquadrate, 7th to 10th transverse, gradually increasing in width. Thorax transverse, trapezoidal, convex, at the base in the middle with short, fine, shining keel, the puncturation as on the head. Elytra a little longer and broader than the thorax, closely, moderately finely punctured. Abdomen closely and finely punctured and pubescent throughout, the fore-parts more finely yellow pubescent.

Nilgiri Hills. Dehra Dun.

676. *Acanthoglossa brachyce:a*.

Acanthoglossa brachycera Kr.*, Arch. Naturg. xxv, 1859, i, p. 145.

Subopaque; head and thorax red, elytra yellowish-red, abdomen brown. Antennæ reddish-yellow. Legs yellow. Length 3 mm.

At once distinguished from all the others by the shining appearance and the reticulate-umbilicate sculpture of the head and thorax, as in *Astenus*, *Stilicopsis*, etc. Build of *A. testaceipennis*, but with the head a little widened behind. Head large, transversely subquadrate, a little widened behind, the base truncate, the posterior angles briefly rounded, the eyes small, a little broader and longer than the thorax, along the middle with trace of smooth shining line, the rest of the surface reticulate-umbilicate. Antennæ short, the 6th to 10th joints transverse, gradually increasing in width. Thorax transverse, trapezoidal, with a very fine median line throughout the sculpture as on the head. Elytra slightly broader and about a half longer than the thorax, finely, closely, asperately punctured. Abdomen closely and finely punctured throughout. The whole insect covered with a fine depressed yellow pubescence.

♂: 6th ventral segment slightly emarginate.

Ceylon. Also in Java.

677. *Acanthoglossa hirta*.

Acanthoglossa hirta Kr.*, Arch. Naturg. xxv, 1859, i, p. 144.

Moderately shining; head and thorax red, elytra yellowish-red, abdomen brown; the whole insect covered with long, coarse, more or less erect yellow pubescence. Antennæ reddish-yellow. Legs yellow. Length 3 mm.

A little broader than *A. testaceipennis*, the head shorter and broader, distinctly transverse, the head and thorax similarly, but more coarsely punctured, thorax broader, as broad as the head, the smooth median line reaching the middle, elytra a little shorter, more coarsely and more sparingly punctured. Abdomen less closely punctured. Antennæ as in *testaceipennis*. At once recognized by the long, coarse, yellow pubescence.

Ceylon. Also in Singapore.

Genus **LOBOCHILUS** Bernh.

Lobochilus Bernh., Arch. Naturg. lxxxiv, 1918, A, p. 179.

Neosclerus Cam., Trans. Ent. Soc. Lond. 1924, p. 188.

Facies of *Eusclerus* Shp., but differs in the non-bilobed labrum. Head large, the eyes very large, the temples scarcely indicated, the base truncate, the neck about one-third its width, the gular sutures somewhat obsolete, entirely separated, divergent behind, the gular plate impunctate. Labrum transverse, feebly emarginate in the middle, without trace of teeth†. Mandibles sharply pointed, the right with four, the left with three short, sharp teeth. Maxillary palpi with the 1st joint very short, 2nd lightly curved, gradually widened apically, 3rd long oval, as long as but wider than the preceding, the apex truncate, the 4th minute, subulate. Outer lobe of maxilla broad, strongly ciliate apically; inner lobe broad, triangular, strongly ciliate apically and internally. Labial palpi with the 1st joint small, the 2nd stout, oval, about twice as long as broad, the 3rd subulate, about half as long as the preceding. Tongue semicircular, membranous, largely corneous along the middle and with a strong bifid process on either side. Paraglossæ well developed, elongate, strongly ciliate. Prosternum obtusely keeled in the middle; epimera triangular, well developed. Mesosternal process short and pointed, the intermediate coxæ contiguous for the greater part. Metasternum truncate, not reaching the mesosternal process. Tibiæ very finely setose. Tarsi 5, 5, 5, the 4th joint simple; anterior not dilated, short, the joints gradually decreasing in length from 1st to 4th; intermediate tarsi a little longer, but similarly constructed; posterior more than half as long as the tibia, the 1st joint a little longer than the 2nd, gradually decreasing in length to the 4th.

In the large head and very large eyes the genus recalls the subgenus *Raphirus*.

The species of this genus are found on the banks of streams.

Key to the Species.

- | | |
|--|---------------------------------------|
| 1. Entirely black species..... | 2. |
| Brownish-red species, the head and markings on elytra black | <i>assamensis</i> , sp. n., p. 126. |
| 2. Sculpture of thorax consisting of punctures | 3. |
| Sculpture of thorax consisting of granules | 4. |
| 3. Puncturation of head and thorax very coarse and close, the latter with narrow smooth median line throughout; elytra closely, moderately finely punctured .. | <i>fortepunctatus</i> Cam., [p. 124.] |

† Not bilobed, as stated by Bernhauer.

Punctuation of head and thorax less coarse and close, the latter with broad impunctate median line; elytra more coarsely, superficially, and less closely punctured

nigerrimus Kr., p. 124.

4. Sculpture of thorax close, the median smooth line very narrow; elytra more finely punctured

frater Cam., p. 125.

Sculpture of thorax moderately close,

.....broader; elytra less finely punctured.....

granulicollis Cam., p. 125.

678. *Lobochilus fortiepunctatus*. (Plate I. fig. 9.)

Neosclerus fortiepunctatus Cam., Trans. Ent. Soc. Lond. 1924, p. 189.

Black, shining, head and thorax very coarsely and closely punctured; elytra longer than the thorax, dark brown, moderately finely and closely punctured; antennæ more or less infusate; legs testaceous. Length 2.75 to 3 mm.

Head large, transversely suborbicular, broader than the elytra, eyes very large, prominent, temples scarcely indicated, base truncate, the whole surface, except a small smooth median space posteriorly, covered with very large and close punctures, which are a little smaller against the eyes and posteriorly. Antennæ moderate, the 3rd joint scarcely shorter than the 2nd, 4th and 5th slightly longer than broad, 6th to 10th about as long as broad. Thorax narrower than head, quadrate, about as long as broad, the anterior angles obtuse, from thence obliquely narrowed to the neck, posteriorly slightly, straightly narrowed to the rounded posterior angles; disc with smooth, shining, impunctate line behind and extending to the middle, otherwise covered with a close coarse punctuation like the head; anterior angles with two black setæ. Elytra scarcely broader, but distinctly longer than the thorax, longer than broad, moderately finely and closely punctured, finely pubescent. Abdomen slightly and gradually narrowed behind, extremely finely and moderately closely punctured, shining, very finely pubescent, apex and sides with some fine black setæ.

♂: 5th ventral segment simply and slightly emarginate; 6th rather deeply triangularly emarginate.

Mussoorie district: Arni Gad, Kempti Falls. Chakrata district: Khedar Khud, in stream moss. Assam: Patkai Hills.

679. *Lobochilus nigerrimus*.

Lithocharis nigerrima Kr.*, Arch. Naturg. xxv, 1859, i, p. 141.

Black, shining. Head and thorax with coarse umbilicate punctures. Antennæ reddish. Legs with the femora pitchy, the tibiæ and tarsi brownish-yellow. Legs 2.75 to 3 mm.

Differs from *L. fortiepunctatus* by the less coarse and more

sparing puncturation of the head and thorax, both with broader impunctate median areas, and the more obsolete, more sparing puncturation of the elytra. The antennæ have the 4th to 7th joints a little longer than broad, gradually decreasing in length, the 8th to 10th about as long as broad, The abdomen is more sparingly punctured.

♂: 6th ventral segment deeply triangularly excised.
Ceylon.

680. *Lobochilus granulicollis*.

Neosclerus granulicollis Cam., Trans. Ent. Soc. Lond. 1924, p. 190.

Black, moderately shining; head very coarsely and closely punctured in front, less coarsely behind; thorax finely and closely granulate, with distinct smooth median line throughout; antennæ testaceous, the 1st joint infusate; legs brownish-testaceous. Length 2.75 mm.

Differs from *L. fortispunctatus* in the less transverse head, which is also much more finely punctured behind, the shorter antennæ, the longer, less shining, finely granulate thorax, and the darker legs. Head large, orbicular, narrower than the elytra, the eyes very large, temples scarcely indicated, base truncate, in front very coarsely and closely punctured, gradually becoming less coarse (though quite as close) posteriorly; antennæ with 3rd joint a little shorter than 2nd, 4th to 6th a little longer than broad, gradually decreasing in length, 7th and 8th about as long as broad, 9th and 10th slightly transverse. Thorax a little longer than broad, narrower than the head, obliquely narrowed from the obtuse anterior angles to the neck, slightly straightly narrowed behind; middle of disc with smooth, shining, impunctate line throughout, the rest of the surface closely and finely granular. Elytra a little longer and wider than the thorax, longer than broad, finely, closely, and somewhat asperately punctured. Abdomen gradually narrowed behind, extremely finely, moderately closely punctured and pubescent, less closely behind; apex and sides finely setose.

Mussoorie district: Kaligad, in stream moss.

681. *Lobochilus frater*.

Neosclerus frater Cam., Trans. Ent. Soc. Lond. 1924, p. 190.

Black, moderately shining, the head finely and closely punctured, the front only with a few large punctures; thorax finely and closely granulate with obsolete smooth median line; antennæ testaceous; legs brownish-testaceous. Length 2.75 mm.

Very near *L. granulicollis* and differing only in the following respects: the head is less shining and is more closely and finely punctured throughout than the posterior part of the head in

the preceding species with only a few coarse punctures in front, the thorax is less shining, the median line much less distinct and scarcely shining.

Mussoorie district : Kaligad, in stream moss.

682. *Lobochilus assamensis*, sp. n.

Shining ; head black, the rest brownish-red, the elytra with the epipleura and the sutural region moderately broadly, indeterminately blackish. Antennæ, palpi, and legs reddish-yellow. Length 3 mm.

Head transversely suborbicular, broader than the elytra, the eyes very large and occupying practically the whole side, with coarse, close, umbilicate punctures, less coarse towards the base, in front in the middle with a small convex smooth space, a little before the base in the middle with a small irregular smooth space. Antennæ with the 3rd joint a little longer than the 2nd, 4th to 9th longer than broad, gradually decreasing in length, 10th about as long as broad, 11th longer. Thorax scarcely longer than broad, the sides retracted behind, all the angles rounded, along the middle with a narrow impunctate line throughout, the rest of the surface with similar sculpture to the head. Elytra a little longer and a little broader than the thorax, rather closely and moderately finely punctured, finely pubescent. Abdomen very finely, rather closely punctured and pubescent throughout, and with a few fine black semi-erect setæ, the apex with some longer ones.

Assam : Naga Hills, Laimatak.

EXOMEDON, gen. n.

Near *Lobochilus* and *Medon*, distinguished from the former by the smaller eyes, which, although large, do not occupy the whole side of the head, the temples being about half their length ; from *Medon* it is separated by the edentate labrum, the front of which is gently rounded, with a moderately broad angular excision in the middle. Fourth joint of tarsus simple, the anterior with the first four joints short and subequal, the middle and posterior with the 1st joint a little longer than the 2nd, the 2nd and 3rd subequal. In facies much resembles *Lobochilus*, but larger and more robust than any species of that genus and with smaller eyes. Mandibles long and sharp, the right with two sharp teeth near the middle, the left with a tricuspid tooth near the middle, the median cusp much the smallest.

683. *Exomedon andrewesi*, sp. n.

Black, shining, the head and thorax coarsely punctured. Antennæ reddish-yellow, the first two joints a little infusate above. Legs yellow. Length 3.75 mm.

Head large, transversely subquadrate, a little broader and longer than the thorax, the eyes large and prominent, about twice as long as the temples, the posterior angles briefly rounded, the base emarginate; puncturation coarse, umbilicate sparing towards the front, closer at the base and sides, the vertex with small impunctate space. Antennæ slender, the 3rd joint a little longer than the 2nd, 4th to 9th all longer than broad, gradually decreasing in length, 10th scarcely longer than broad, 11th a little longer, oval. Thorax transverse, trapezoidal, the sides straight, a little retracted behind, along the middle with a broad impunctate space, near the anterior angles with impunctate plaque, the rest of the surface with sculpture as at the base of the head. Elytra a little longer and broader than the thorax, rather coarsely and closely punctured, with fine black pubescence. Abdomen very finely, moderately closely punctured, rather more sparingly behind, finely coriaceous, very finely and moderately closely pubescent.

♂: unknown.

Nilgiri Hills.

PACHYMEDON, gen. n.

Subconvex. Labrum very short and broad, practically truncate in front with a minute notch in the middle. Mandibles long, curved, and pointed, the right with four sharp teeth, the 3rd smaller than the others, the left with three sharp teeth. Fourth joint of the maxillary palpi short and subulate. Neck stout. Middle coxæ contiguous. Anterior tarsi dilated (at least in the male), middle and posterior tarsi rather short, the 4th joint simple; posterior tarsi with the first four joints gradually decreasing in length, the first of them but little longer than the 2nd. Facies recalling *Acanthoglossa*. Differs from *Medon* in the labrum, which is destitute of teeth and practically truncate. To this group belongs *Medon granulicollis* Bernh. from Sumatra.

Key to the Species.

1. Head and thorax coarsely granular . . . *shugnuensis*, sp. n., p. 127.
- Head and thorax finely punctured . . . *assamensis*, sp. n., p. 128.

684. *Pachymedon shugnuensis*, sp. n.

Head and thorax a little shining, dark ferruginous-red; elytra black, shining, the humeral angles reddish; abdomen a little shining. Antennæ reddish. Legs reddish-yellow.

Near *M. granulicollis* Bernh. from Sumatra, but larger, the

elytra black and the posterior angles of the head less briefly rounded. Head strongly transverse, a little narrower than the thorax, the temples longer than the eyes, the posterior angles rounded, the base emarginate, the whole surface closely covered with rather large granules, more sparing on the vertex, each with a minute puncture, and with a few erect black setæ. Antennæ with the 3rd to 6th joints longer than broad, gradually decreasing in length, 7th quadrate, 8th to 10th transverse. Thorax strongly transverse, convex, the sides straight, retracted behind, the anterior angles briefly, the posterior broadly, rounded; at the middle of the base with very short shining line, the rest of the surface closely covered with elongate granules, the sides with black setæ. Elytra a little longer and broader than the thorax, rather closely and asperately punctured, with long greyish pubescence and longer black setæ, especially at the sides. Abdomen finely and closely punctured throughout, pubescence long, greyish, with a few black setæ.

Assam : Shugnu, alt. 3000 feet (*S. N. Chatterjee*).

685. *Pachymedon assamensis*, sp. n.

Robust, subconvex, the fore-parts shining, black, the humeral angles of the elytra reddish; abdomen less shining, the posterior margins of the 5th and 6th segments reddish-yellow. Antennæ red. Legs reddish-yellow. Length 5.2 mm.

Facies somewhat recalling the genus *Acanthoglossa*. Head strongly transverse, subquadrate, as broad as the thorax, the eyes moderate, shorter than the temples, the posterior angles rounded, the base emarginate and the punctuation very fine, asperate, sparing on the disc, closer and less fine at the base and sides, pubescence fine and with some longer black setæ, especially at the sides. Antennæ with the 3rd to 6th joints longer than broad, gradually decreasing in length, 7th quadrate, 8th to 10th a little transverse. Thorax strongly transverse (7 : 5), convex, the sides straight, moderately retracted behind, the anterior angles briefly, the posterior broadly, rounded, the whole surface with a fine asperate, not very close punctuation, finely pubescent and with numerous black setæ, especially at the sides. Elytra a little longer and broader than the thorax, rather closely, moderately finely, asperately punctured, with long greyish pubescence and long black setæ at the sides. Abdomen finely and moderately closely punctured, more sparingly behind, with long greyish pubescence and black setæ laterally.

♂ : 6th ventral segment with moderately broad and deep arcuate excision.

Assam : Naga Hills ; Laimatak (*S. N. Chatterjee*).

Genus **MEDON** Steph.

- Medon* Steph., Ill. Brit. Ent. Mand. v, 1832, p. 273; Thoms., Skand. Col. ii, 1860, p. 205; Muls. et Rey, Ann. Soc. Linn. Lyon, xxiv, 1877, p. 119; Ganglb., Käf. Mitt. Eur. ii, 1895, p. 518; Casey, Trans. Ac. St. Louis, xv, 1905, pp. 153, 161.
- Lithocharis* Er., Käf. Mark. Brandl. 1837-39 (1839), p. 511; id., Gen. Spec. Staph. 1839-40, p. 610; Kraatz, Naturg. Ins. Deutsch. ii, 1856-58, p. 710; Jacq. du Val, Gen. Col. d'Eur. ii, 1857-59, p. 46; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 315 (ex parte); Sharp, B. C.-A. i, 2, 1882-87 (1886), p. 549.
- Sunius* Steph., Ill. Brit. Ent. Mand. v, 1832, p. 274.
- Achenomorphus* Motsch., Bull. Mosc. xxxi, 1858, ii, p. 647.
- Subgen. *Chloëcharis* Lynch, Bol. Ac. Cordoba, vii, 1884, p. 259.
- Subgen. *Cryptoporus* Motsch., Bull. Mosc. xxxi, 1858, ii, p. 654; Fauv., Rev. d'Ent. xiv, 1895, p. 227.
- Subgen. *Hypomelon* Muls. et Rey, Ann. Soc. Linn. Lyon, xxiv, 1877, p. 122; Casey, Trans. Ac. St. Louis, xv, 1905, p. 152.
- Subgen. *Medon* Casey, Trans. Ac. St. Louis, xv, 1905, pp. 152, 160.
- Subgen. *Medon*, s. str., Muls. et Rey, Ann. Soc. Linn. Lyon, xxiv, 1877, p. 122.
- Subgen. *Pseudomedon* Muls. et Rey, Ann. Soc. Linn. Lyon, xxiv, pp. 122; Casey, Trans. Ac. St. Louis, xv, 1905, pp. 155, 187.
- Subgen. *Ramona* Casey, Bull. Calif. Ac. ii, 1886, pp. 32, 38; id., Trans. Ac. St. Louis, xv, 1905, pp. 152, 159.
- BIOLOGY.—Rupertsberger, Biol. Lit. Käf. d'Eur. 1894, pp. 123, 124.

Near *Lathrobium*, but differing in the labrum, the anterior tarsi simple in both sexes or only a little widened in the male, and the 1st joint of the posterior tarsi a little longer than the 2nd. Neck usually stout, the gular sutures variable, more or less fused or separate. Eyes small or moderate. Labrum transverse, the sides and anterior angles rounded, in the middle with a small emargination with on each side a small tooth, the front margin external to the tooth, often a little sinuate. Mandibles rather stout, curved, pointed, with two, three, or four teeth. Inner lobe of maxilla narrow, outer broader, both densely ciliate. Maxillary palpi 4-jointed, the 1st joint very small, 2nd elongate, slightly curved and thickened towards the apex, 3rd as long as or shorter than the 2nd, more thickened apically, 4th very small, subulate. Mentum transverse, trapezoidal, slightly emarginate in front. Tongue membranous, consisting of two rather widely separated lobes. Paraglossæ well developed, extending a little beyond the tongue and internally furnished with long cilia. Thorax more or less trapezoidal, the prosternum rather short, sometimes keeled, its process usually long, laterally compressed, extending sometimes to the posterior margin; epimera small, triangular, separated by a suture from the pronotal epipleura. Mesosternum narrowed to a "neck" in front, in the middle often foveate, its process short, acute, free, extending but little between the coxæ, which are contiguous. Abdomen keeled below at the base. Legs rather stout; tibiæ ciliate; tarsi 5-jointed, the 4th joint simple, the anterior tarsi sometimes

a little thickened in the male ; middle and posterior short, the 1st joint a little longer than the 2nd, 2nd to 4th gradually decreasing in length.

The genus is found throughout the world in moss, vegetable detritus, etc.

The species in our Fauna appear to fall into the subgenus *Medon*, s. str., and *Hypomedon* Muls. et Rey, which are distinguished as follows :—

- | | |
|--|---|
| 1. Gular sutures fused or very narrowly separated ; apex of the mesosternum usually keeled | <i>Medon</i> , s. str., p. 133. |
| Gular sutures rather widely separated ; apex of mesosternum not keeled | [p. 150, <i>Hypomedon</i> Muls. et Rey, |

I have not, however, used these subdivisions in the Key to the Species.

Key to the Species.

- | | | |
|---|-----|---------------------------------------|
| 1. Sculpture of the thorax consisting of asperate punctures or granules..... | 2. | |
| Sculpture of thorax consisting of simple or umbilicate punctures or almost impunctate but strongly coriaceous ... | 14. | |
| 2. Head entirely covered with granules ... | 3. | |
| Head at least with the disc punctured and granular elsewhere or punctured all over, the punctures occasionally rugose or confluent..... | 7. | |
| 3. At and elytra ferruginous-red | 4. | |
| Thorax black or pitchy..... | 5. | |
| 4. Larger (5 mm.). Head ferruginous-red ; penultimate joints of antennæ as long as broad | | [p. 137. <i>rufoferrugineus</i> Cam., |
| Smaller (3·75 mm.). Head black or pitchy ; penultimate joints of antennæ transverse..... | | <i>opacellus</i> Fauv., p. 134. |
| 5. Thorax with well-marked shining elevated line in middle ; elytra pitch-black, the shoulders reddish..... | | <i>exasperatus</i> Cam., p. 136. |
| Thorax with ill-defined median line ; elytra ferruginous-red, occasionally extensively infusate..... | 6. | |
| 6. Larger (5·75 mm.) ; penultimate joints of antennæ scarcely transverse ; elytra dark ferruginous-red | | <i>birmanus</i> Fauv., p. 135. |
| Smaller (4·5 mm.) ; penultimate joints of antennæ transverse ; elytra ferruginous-red, more or less extensively infusate | | <i>siwalikensis</i> Cam., p. 136. |
| 7. Species entirely or in greater part red ... | 8. | |
| Species entirely or in greater part black or pitchy..... | 11. | |
| 8. First visible segment of abdomen thickly covered with yellow pubescence, the posterior margin of the 5th yellow. Large species (7 mm.) ; head and thorax ferruginous-red ; elytra yellow, a little infusate behind | | <i>auripilis</i> Fauv., p. 133. |

- First visible segment of abdomen normally pubescent 9.
9. Smaller (3 mm.), ferruginous-red species; the disc of head punctured, the rest granular *cinnamopterus* Kr., p. 138.
- Larger (4.8 to 5.75 mm.), head black or pitchy; punctured all over..... 10.
10. Thorax strongly transverse; larger (5.75 mm.) *aspericollis* Fauv., p. 137.
- Thorax not transverse; smaller (4.8 mm.) *vicinus* Kr., p. 148.
11. Thorax strongly transverse 12.
- Thorax not or but slightly transverse ... 13.
12. Head with longitudinal more or less confluent rugæ; antennæ red *fauveli* Bernh., p. 133.
- Head without longitudinal rugæ; antennæ with the intermediate joints infusate *proximus*, sp. n., p. 134.
13. Shining species; antennæ black, the last four or five joints reddish..... *montivagans*, sp. n., p. 147.
- Opaque species; antennæ entirely reddish-testaceous..... *dolorosus* Cam., p. 135.
14. Pale yellow species 15.
- Otherwise coloured 16.
15. Puncturation rather coarse *pallidus* Motsch., p. 144.
- Puncturation feeble; thorax with a row of punctures on each side *flavescens* Motsch., p. 148.
16. Species in greater part ferruginous or reddish-testaceous, the elytra usually more or less infusate. Head always red 17.
- Species in greater part black or pitchy. Head always black..... 26.
17. Head and thorax distinctly coriaceous .. 18.
- Head and thorax not coriaceous 20.
18. Head with a few extremely fine punctures; thorax impunctate *breviusculus* Kr., p. 149.
- Head and thorax distinctly punctured .. 19.
19. Head a little broader than the thorax; more robust; elytra more finely punctured *debilicornis* Woll., p. 154.
- Head as broad as the thorax; narrower and smaller; elytra less finely punctured [p. 155.
20. Abdomen black, the posterior margins of the segments reddish..... *minutissimus* Bernh.,
- Abdomen (first visible) segment often blackish..... *nigriventris* Cam., p. 155.
21. Elytra red, the posterior half black 21.
- *basalis* Cam., p. 153.
22. Elytra black, the posterior half 22.
- *immsi* Bernh., p. 152.
- Elytra blackish, the base narrowly, the apical margin more broadly, reddish-yellow 23.
23. Fore-parts greasy-lustrous; head and thorax very closely punctured..... *championi* Cam., p. 150.
- Fore-parts shining 24.
24. Head and thorax rather strongly punctured 25.
- Head and thorax rather finely, obsoletely, and moderately closely punctured..... *beesoni* Cam., p. 151.

25. Thorax more finely punctured towards the sides; elytra longer. *nilgiriensis*, sp. n., p. 152.
 Thorax uniformly punctured; elytra shorter. *discipennis* Fauv., p. 151.
26. Thorax red; elytra yellowish-red *gratus*, sp. n., p. 143.
 Thorax black or pitchy-brown 27.
27. Head and thorax very distinctly coriaceous; elytra yellow, more or less infusate on the disc. 28.
 Head and thorax not coriaceous 29.
28. Vertex of head and the thorax extremely finely, obsoletely punctured [p. 149.
 Head closely and distinctly punctured; thorax finely, sparingly, and obsoletely punctured *stilicinus*, nom. nov.,
29. Elytra entirely black. *andrewcsi*, sp. n., p. 150.
 Elytra at least with the base very narrowly and obscurely reddish. 30.
30. Punctuation of head coarser than that of thorax 32.
 Punctuation of head not coarser than that of thorax *parkeri* Cam., p. 141.
31. Punctuation of thorax coarser than that of head 31.
 Punctuation of thorax similar to that of head. *flavipes* Motsch., p. 140.
32. Elytra reddish-castaneous, occasionally a little infusate behind near the suture. *niger* Cam., p. 145.
 Elytra otherwise 33.
33. Larger (6.25 mm.). Penultimate joints of antennæ longer than broad 35.
 Smaller (5 mm.). Penultimate joints of antennæ transverse *picipennis* Fauv., p. 139.
34. Broader, less shining; elytra uniformly reddish-castaneous 34.
 Narrower, more shining; elytra reddish, obscurely infusate behind near the suture [p. 146.
castaneipennis Cam.,
35. Elytra with the base and apex rather reddish-yellow [p. 139.
rubripennis n., p. 139.
præustus Fauv., var.
36. Elytra pitchy-black, the reflexed margin and more or less of the disc adjacent reddish *latecinctus* Fauv., p. 153.
 Elytra otherwise 36.
37. Base and suture of the elytra very narrowly and obscurely reddish *curtus* Kr., p. 140.
 Elytra otherwise 37.
38. Antennæ reddish, the last four joints yellow. Very coarsely punctured species. *umbilicatus* Cam., p. 146.
 Antennæ uniformly reddish. Less coarsely punctured species 38.
39. Sides of thorax before the middle with distinct emargination. [p. 144.
 Sides of thorax straight *fortepunctatus* Bernh.,
40. Base of elytra more or less broadly reddish or reddish-yellow. Larger (5 to 6 mm.) 39.
 Base and apical margin of the elytra narrowly reddish-yellow. Smaller (3 mm.) 40.
41. *planatus* Bernh., p. 142.
 41.
 *monticola*, sp. n., p. 143.

41. Thorax with sculpture consisting of larger and smaller punctures. Length 4 to 4.3 mm. *preustus* Fauv., p. 139.
 Thorax uniformly sculptured. 42.
 42. Larger (6 mm.), less shining and more finely punctured. *humeralis* Motsch., p. 141.
 Smaller (4 mm.), more shining, less finely punctured. *planus* Kr., p. 142.

686. *Medon auripilis*.

Medon auripilis Fauv.*, Rev. d'Ent. xiv, 1895, p. 228.

Medon thaxteri Bernh.*, Ark. Zool. xix, A, 1927, p. 11.

Rather robust, subconvex, greasy-lustrous; head and thorax ferruginous-red, elytra pitchy, the base, humeral angles, suture and apex (very narrowly) reddish; abdomen brown, more shining, the posterior margins of the 5th and 6th segments lighter. Antennæ reddish, the 4th and 5th joints pitchy. Legs reddish-yellow. Length 7 mm.

Head transversely subquadrate, a little narrower than the thorax, the temples parallel, the posterior angles briefly rounded, the sculpture very close, moderately fine, rugose, the sides with some black setæ. Antennæ with the 3rd to 7th joints longer than broad, gradually decreasing in length, the 8th to 10th scarcely transverse. Thorax distinctly transverse, the sides a little retracted behind, the anterior angles briefly, the posterior broadly, rounded, along the middle posteriorly with an extremely fine shining line, the rest of the surface rather closely covered with rather fine granules, each with a fine puncture; the sides with some black setæ. Elytra about a third longer and a little broader than the thorax, a little longer than broad, closely and finely asperately punctured, the basal third covered with a fine, thick, yellow pubescence, the rest with a fine, less noticeable greyish pubescence. Abdomen closely and finely punctured and pubescent, the 1st visible segment much more thickly pubescent than the rest.

♂: 6th ventral segment broadly and feebly emarginate.

The colour of the elytra is variable, occasionally being almost entirely reddish or reddish-yellow, infusate at the posterior external angles.

Burma: Carin Cheba. Also in Sumatra, Java, and Borneo.

687. *Medon fauveli*.

Medon fauveli Bernh., Cat. Col. xl, 1912, p. 234 (nom. nov.).

Medon luctuosus Fauv.*, Rev. d'Ent. xiv, 1895, p. 229 (præocc.).

Rather robust, greasy-lustrous, head and thorax black, elytra and abdomen pitchy, the former more or less blackish posteriorly, the latter with the posterior margins of the last two segments lighter. Antennæ reddish-brown. Legs reddish-yellow. Length 5.75 to 6 mm.

Head convex, transversely subquadrate, a little broader than the thorax, the temples parallel, longer than the eyes, the posterior angles briefly rounded, the sculpture consisting of fine more or less longitudinal and confluent rugæ, the more or less elongate spaces between punctured; sides with black setæ. Antennæ with the 3rd to 6th joints longer than broad, gradually decreasing in length, the 7th to 10th about as long as broad, 11th rather long, pointed. Thorax distinctly transverse, convex, the sides nearly straight, retracted behind, the angles rounded, in the middle with a very fine shining line, shortly and finely sulcate behind; closely covered with small granules, each with a minute puncture; sides with black setæ. Elytra about a third longer and a little broader than the thorax, finely, closely asperately sculptured, finely grey pubescent. Abdomen very finely and closely punctured, very finely coriaceous, finely and closely pubescent.

♂: according to Fauvel the 6th ventral segment has a broad, scarcely sinuate emargination.

Burma: Carin Ghécú; Carin Asciiu Ghécú, alt. 1300 to 1500 metres. Dehra Dun and Mussoorie districts, alt. 2500 to 6000 feet.

688. *Medon proximus*, sp. n.

Build and lustre of *M. fauveli*, but a little smaller (5.2 mm.), the eyes a little smaller, the head black, vertex dark ferruginous-red, the puncturation finer, rough, but without longitudinal rugæ, the antennæ a little longer, the penultimate joints slightly longer than broad, the intermediate distinctly infusate; shape and sculpture of the thorax scarcely differing from that of *fauveli*; elytra a little more coarsely punctured, pitch-black, the base and humeral angles rufescent; abdomen scarcely differing from that of *fauveli*.

♂: unknown.

Burma: Tenasserim; Tavoy (*Doherty*). British Museum Collection.

689. *Medon opacellus*.

Medon opacellus Fauv.*, Rev. d'Ent. xiv, 1895, p. 231.

Rather robust, subconvex; head black, dull, thorax and elytra brownish-red, a little shining, the latter often more or less infusate postero-externally; abdomen a little shining, brown, the posterior margins of the last two segments lighter. Antennæ reddish. Legs reddish-yellow. Length 3.75 mm.

Head slightly transverse, subquadrate, as broad as the thorax, the temples a good deal longer than the eyes, the posterior angles rather broadly rounded, the whole surface very closely covered with small granules, each with a minute

puncture, the sides with a few black setæ. Antennæ short, the 3rd to 6th joints longer than broad, gradually decreasing in length, the 7th to 10th a little transverse. Thorax slightly transverse, the sides but little retracted behind, the anterior angles briefly, the posterior more broadly, rounded; along the middle of the posterior half with a fine shining line, on each side with obsolete longitudinal impression, the sculpture as on the head. Elytra a little longer and broader than the thorax, with a granular sculpture finer and less close than on the thorax. Abdomen very finely and closely punctured and pubescent, a little more sparingly behind.

♂: 6th ventral segment broadly crescentically emarginate.

Burma: Tenasserim; Thagata; Pegu. Also in Singapore, Sumatra, and Annam.

690. *Medon dolorosus*.

Medon dolorosus Cam., Trans. Ent. Soc. Lond. 1924, p. 187.

Entirely black, greasy-lustrous, the head and thorax densely and finely granulate, the elytra densely and finely asperately punctured; thorax with smooth central line more or less obsolete in front; antennæ ferruginous; legs reddish-testaceous. Length 4 mm.

Size and build of *M. opacellus* Fauv., but entirely differently coloured, the head a little smaller and the sculpture generally distinctly finer. Head a little wider than the thorax, slightly transverse, the eyes rather small, the temples a little widened behind, the posterior angles rather broadly rounded, the base slightly emarginate, extremely finely and closely granulate; antennæ with the 3rd joint distinctly longer than the 2nd, 4th and 5th a little longer than broad, 6th as long as broad, 7th to 10th transverse. Thorax slightly longer than broad, the sides straight, scarcely narrowed behind, disc with narrow smooth line before the base, more or less obsolete in front, impressed on either side behind, densely but rather less finely granulate than the head. Elytra distinctly longer and a little wider than the thorax, densely and finely asperately punctured. Abdomen extremely finely and closely punctured and pubescent throughout.

Mussoorie district: Kaligad.

691. *Medon birmanus*.

Medon birmanus Fauv.*, Rev. d'Ent. xiv, 1895, p. 228.

Medon asperulus Cam., Trans. Ent. Soc. Lond. 1924, p. 186.

Head black, subquadrate opaque, very densely and finely asperate, the disc with trace of smooth line; thorax pitchy-black, nearly opaque, with fine smooth median line throughout and similar sculpture to the head. Elytra ferruginous-red,

more or less infusate postero-externally, nearly opaque, densely and more finely asperate than the fore-parts; abdomen pitchy, exceedingly finely and densely punctured and pubescent; antennæ and legs reddish. Length 5.5 to 5.75 mm.

Head transversely subquadrate, as broad as the thorax, the eyes small, temples longer, nearly parallel, the posterior angles rather briefly rounded, the base truncate, the sculpture granular and close, each granule with a little puncture, the sides with black setæ. Antennæ with 3rd to 7th joints longer than broad, gradually decreasing in length, 9th and 10th scarcely transverse. Thorax scarcely transverse, the sides straight, slightly retracted behind, the angles rounded, in the middle with fine shining line, the sculpture as on the head, finely pubescent, at the sides setiferous. Elytra a little longer and broader than the thorax, more closely pubescent.

♂: 6th ventral segment slightly obtusely emarginate.

Burma: Carin Cheba; Carin Ghécu; Carin Asciiui Ghécu. Sikkim. Chakrata district: Sijla Gad; Mohna; Bangar, 5000 to 6000 feet above the sea.

692. *Medon siwalikensis*, sp. n.

Very closely allied to *M. birmanus*, the sculpture similar, but smaller (4.5 mm.), the antennæ shorter, the intermediate joints shorter and the penultimate more transverse, head with the posterior angles less briefly rounded, the elytra usually more extensively infusate, the 6th ventral segment in the male more deeply, arcuately emarginate, the 5th broadly, scarcely perceptibly emarginate.

Siwaliks: Nakraunda. Dehra Dun. Mussoorie district: Arni Gad.

693. *Medon exasperatus*.

Medon exasperatus Cam., Trans. Ent. Soc. Lond. 1924, p. 187.

Opaque, black, elytra pitchy, obscurely lighter at the shoulders, abdomen brown, the last segment fusco-testaceous; head, thorax, and elytra finely and densely granulate; antennæ and legs reddish-testaceous. Length 4.5 mm.

Smaller than *M. birmanus*, differently coloured, the head with less briefly rounded posterior angles, wider more definite smooth median thoracic line and more coarsely sculptured elytra. Head transversely subquadrate, as broad as the thorax, the posterior angles rather briefly rounded, the base emarginate, eyes small; densely and finely granulate; antennæ with the 3rd joint a little longer than 2nd, 4th and 5th a little longer than broad, 6th to 8th as long as broad, 9th and 10th transverse. Thorax slightly transverse, slightly narrowed behind, the sides straight, the posterior angles rounded, disc

with narrow, smooth, shining line (sulcate behind) from base to apex, slightly impressed on either side of the middle before the base, sculpture as on the head. Elytra as wide as and a little longer than the thorax, densely, finely, asperately punctured. Abdomen narrowed behind, densely, very finely punctured and finely pubescent throughout.

♂: 6th ventral segment broadly, feebly emarginate.

Mussoorie district: Arni Gad. Chakrata district: Mohna, 5000 feet above the sea.

694. *Medon aspericollis*.

Medon aspericollis Fauv.*, Rev. d'Ent. xiv, 1895, p. 229.

Robust, convex, moderately shining; head black, more opaque, thorax, elytra, and abdomen reddish-brown, the elytra more ferruginous. Antennae reddish, the 3rd to 6th joints blackish. Legs reddish. Length 5.75 mm.

Head transversely subquadrate, narrower than the thorax, temples parallel, the posterior angles rounded, the base slightly emarginate, closely covered with rather coarse umbilicate punctures, on the vertex with a small, less closely punctured area, the sides with several black setae. Antennae with the 3rd to 7th joints longer than broad, gradually decreasing in length, 9th and 10th slightly transverse. Thorax slightly transverse, convex, the sides a little retracted behind, the anterior angles briefly, the posterior angles broadly rounded, along the middle with rather broad impunctate line, the rest of the surface covered with rather close, moderately coarse granules, each with a fine puncture, near the anterior angles with a small, nearly smooth space, the sides with long black setae. Elytra a little longer and broader than the thorax, rather closely, moderately finely, asperately punctured, finely pubescent. Abdomen very finely, rather closely punctured, a little more sparingly behind, with long, moderately fine pubescence and numerous long black setae.

♂: 6th ventral segment with rather broad arcuate excision.

Burma: Carin Asciiui Ghéou.

695. *Medon rufoferrugineus*.

Medon rufoferrugineus Cam., Trans. Ent. Soc. Lond. 1924, p. 186.

Ferruginous-red, slightly shining; abdomen reddish-brown; antennae and legs reddish-testaceous. Length 5 mm.

Larger and more robust than *M. opacellus* Fauv., of brighter colour, with shorter, broader, less convex head and more briefly rounded posterior angles. Head transverse, subquadrate, a little wider than the thorax, eyes small, temples nearly parallel, the posterior angles briefly rounded, base emarginate,

vertex with minute shining plaque, the rest of the surface densely and finely granular, a little coarser towards the front, finely setiferous; antennæ with 3rd joint distinctly longer than 2nd, 4th to 8th longer than broad, gradually decreasing in length, 9th and 10th as long as broad, Thorax as long as broad, scarcely narrowed behind, obliquely truncate in front, with smooth shining median line throughout, lightly impressed on either side before the base, densely and finely granular, but less densely than the head, finely setiferous. Elytra as long as and a little broader than the thorax, less shining; densely, finely, asperately punctured. Abdomen densely and finely punctured and pubescent throughout.

♂: 6th ventral segment with small crescentic emargination.
Mussoorie district: Arni Gad; Kemti Falls; Keyarkuli.

696. *Medon cinnamopterus*.

Lithocharis cinnamoptera Kr.*, Arch. Naturg. xxv, 1859, i, p. 141.

Medon orientalis Cam., Trans. Ent. Soc. Lond. 1920, p. 281.

Medon chatterjeei Cam., Trans. Ent. Soc. Lond. 1924, p. 188.

Pitchy-red, nearly opaque, the elytra and abdomen rather more shining, the former with the postero-external angles and often with more or less of the posterior half infuscate. Antennæ, mouth-parts, and legs reddish-testaceous. Length 3 mm.

Allied to *M. opacellus* Fauv., but smaller and narrower, the antennæ more slender, the vertex of the head a little shining, the sculpture consisting of close simple punctures not at all rugulose on the disc, but granular at the base, temples, and in front. Head large, transversely quadrate, as broad as the thorax, the posterior angles rounded, the base feebly emarginate; the eyes moderate; sculpture on the disc consisting of moderately large close punctures, at the sides, base, and temples of small granules. Antennæ slender, the 2nd joint a little shorter than the 3rd, the 4th to the 6th all a little longer than broad, gradually decreasing in length, the 7th to the 10th about as long as broad. Thorax scarcely broader than long, the sides narrowed from the apex to the base and setose; sculpture consisting of a fine close granulation, the disc with a trace of a smooth median line. Elytra longer and a little broader than the thorax, longer than broad, with a close (but not so close as on the thorax) granular sculpture; pubescence fine and yellow. Abdomen closely and finely punctured throughout; pubescence close, yellow.

♂: 6th ventral segment with a broad but not deep emargination.

Dehra Dun. Mussoorie district: Arni Gad; Kemti Falls. Also in the Malay Peninsula, Sumatra, and Borneo.

697. *Medon præustus*.

Medon præustus Fauv.*, Rev. d'Ent. xxiv, 1905, p. 138.

Medon præustus var. *rubripennis* n.

Head and thorax black, the former slightly, the latter more, shining; elytra shining, pitchy-black, the base and shoulders indeterminately reddish; abdomen pitchy, the posterior margins of the last two segments reddish. Antennæ reddish. Legs reddish-yellow. Length 4 to 4.3 mm.

Narrower and less robust than *M. opacellus*, more shining, differently coloured and punctured, the thorax longer. Head convex, subquadrate, slightly transverse, a little broader than the thorax, the temples longer than the eyes, the posterior angles rather broadly rounded, the base emarginate, the sculpture close, moderately coarse and umbilicate. Antennæ rather short, the 3rd to 5th joints a little longer than broad, gradually decreasing in length, 6th as long as broad, 7th to 10th transverse. Thorax as long as broad, the sides straight, slightly retracted behind, the angles rounded, at the middle of the base with short shining line, on each side with a small impression; sculpture on the disc close, umbilicate, rather superficial and more or less longitudinally confluent, towards the sides much finer, not umbilicate and much less close. Elytra a little longer and broader than the thorax, closely, rather finely asperately punctured, finely pubescent. Abdomen closely and finely punctured and pubescent throughout, subsericeous.

The variety *rubripennis* has the elytra red, scarcely perceptibly infusate behind near the suture.

♂: 6th ventral segment at the middle of the base with a flat tubercle, slightly impressed in the middle.

Burma. Also in Java. The variety comes from Chittagong.

698. *Medon picipennis*.

Medon picipennis Fauv.*, Rev. d'Ent. xiv, 1895, p. 230.

Rather robust, scarcely shining, the head and thorax black, elytra reddish-brown, the abdomen pitchy-black, the posterior margins of the last two segments reddish-yellow. Antennæ red. Legs reddish-yellow. Length 6.25 mm.

Head subquadrate, slightly transverse, a little broader than the thorax, the eyes small, the temples parallel, the posterior angles rather broadly rounded, the base emarginate; in the middle of the vertex with a short shining line, the sculpture close, moderately coarse and finely umbilicate, the sides with black setæ. Antennæ with all the joints longer than broad, gradually decreasing in length, the penultimate only slightly longer than broad. Thorax slightly transverse, the sides straight and slightly retracted behind, the angles rounded;

in the middle of the base with very fine shining line, scarcely distinguishable in front, the sculpture similar, but rather coarser than on the head, the sides with black setæ. Elytra a little longer and broader than the thorax, closely and moderately finely punctured, finely and rather closely pubescent. Abdomen very finely and closely punctured and pubescent throughout, subsericeous.

Burma: Carin Ghécu, alt. 1300 to 1400 metres (*Fea*).

699. *Medon curtus*.

Lithocharis curta Kr.*, Arch. Naturg. xxv, 1859, i, p. 136.

Subdepressed, moderately shining, pitchy-black, the reflexed margin of the elytra and adjacent part of the disc rather broadly reddish; posterior margin of the abdominal segments narrowly reddish, the apical segment paler. Antennæ and legs reddish. Length 4.5 mm.

Head transverse, subquadrate, a little broader than the thorax, eyes small, temples nearly parallel, the posterior angles briefly rounded, the base truncate, moderately finely, closely punctured. Antennæ with the 3rd joint longer than the 2nd, 4th to 6th slightly longer than broad, 7th to 10th slightly transverse. Thorax transverse, trapezoidal, the sides almost straight, a little retracted behind, anterior angles obtuse, the posterior rounded; in the middle with a fine shining median line, finely sulcate behind, sculpture as on the head, but closer. Elytra a little longer and broader than the thorax, transverse, more finely, somewhat asperately and closely punctured. Abdomen rather finely, moderately closely punctured and rather coarsely pubescent.

Ceylon.

700. *Medon flavipes*.

Cryptoporus flavipes Motsch., Bull. Mosc. xxxi, 1858, ii, p. 655.

Build of *Achenium humile* [Europe], but more robust and more convex. Black, shining, duller on the abdomen on account of the grey pubescence, legs, anus, and margins of the segments testaceous, antennæ, palpi, and labrum more or less infuscate, mandibles of a brownish-red. Head large, oblong, covered with large sparing punctures and with a transverse impression between the insertion of the antennæ. Thorax covered with cicatrices larger and closer than those of the head, with an impressed median line. Elytra longer than the thorax, with the cicatrices closer. Abdomen much more finely punctured, especially towards the apex.

"Indes orientales" (ex *Motschoulsky*).

701. *Medon parkeri*.

Medon parkeri Cam., Trans. Ent. Soc. Lond. 1924, p. 183.

Black, rather shining, finely pubescent, head subquadrate, moderately coarsely, closely punctured; eyes small; thorax transverse, narrower than the head, very closely, less coarsely punctured than the head and with a smooth median line; elytra a little longer than the thorax, very closely and more finely punctured; abdomen very finely and closely punctured and pubescent, the posterior margin of 5th segment obscurely ferruginous; antennæ ferruginous; legs dark brown. Length 8 mm.

Very near *M. flavipes* Motsch., exactly similar in size and build, but the puncturation throughout is distinctly closer. Head large, subquadrate, very slightly widened behind, the temples long, the posterior angles briefly rounded, the base truncate, anterior margin elevated, impunctate, the front obsoletely, triangularly impressed, with a row of moderate punctures behind the elevated anterior margin, vertex with impunctate space, otherwise moderately coarsely and closely punctured; antennæ with 2nd joint shorter than 3rd, 4th to 10th oval, gradually decreasing in length, 11th longer than the 10th.

Almora: Zodh (*R. N. Parker*).

702. *Medon humeralis*.

Lithocharis humeralis Motsch., Bull. Mosc. xxxi, 1858, ii, p. 644; Cam., Mitt. Mus. Hamb. xliii, 1927, p. 37 (note).

Elongate, depressed, black greasy lustrous, the elytra with the base and shoulders more or less extensively rufescent. Antennæ reddish-yellow, the 1st joint occasionally infusate above. Legs brownish-yellow. Length 6 to 6.2 mm.

Near *M. planus*, but larger and more robust with longer antennæ. Head large, as long as broad, as long as and a little broader than the thorax, the eyes small, the temples very slightly widened behind, the posterior angles rounded, the base slightly emarginate, closely and finely punctured and pubescent, the sides with a few setæ. Antennæ with the 3rd joint a little longer than the 2nd, 4th to 8th a little longer than broad, 7th and 8th oval, equal, 9th and 10th equal, about as long as broad. Thorax as long as broad, the sides straight, distinctly retracted behind, the anterior angles nearly obtuse, the posterior broadly rounded, in the middle of the base with a fine shining line sometimes more or less produced anteriorly, on either side of the base with small obsolete impression, the sculpture and pubescence as on the head. Elytra a little longer and broader than the thorax, closely, finely, and asperately punctured.

finely pubescent. Abdomen closely and finely punctured and pubescent, coriaceous, subsericeous. Femora thickened.

♂: 5th ventral segment with an oval impression in the middle near the base, the fundus shining and furnished with a few stiff yellow hairs.

"Indes orientales." I have specimens from Java, Lombok, and Borneo.

703. *Medon planus*.

Lithocharis plana Kr.*, Arch. Naturg. xv, 1859, i, p. 136; Cam., Mitt. Mus. Hamb. xliii, 1927, p. 37 (note) †.

Elongate, depressed, black, moderately shining, the elytra with the base and shoulders reddish-brown, abdomen pitchy. Antennæ reddish. Legs reddish-yellow, the femora often darker. Length 5 mm.

Near *M. humeralis*, but smaller, more shining, the head smaller and transverse, the antennæ shorter. Head transversely subquadrate, a little broader than the thorax, the eyes small, the temples parallel, the posterior angles rounded, the base truncate, closely and moderately finely punctured. Antennæ with the 3rd joint a little longer than the 2nd, 4th to 6th a little longer than broad, gradually decreasing in length, 7th to 10th about as long as broad. Thorax slightly transverse, the sides straight, slightly retracted behind, the anterior angles obtuse, the posterior rounded, at the base in the middle without keel; the sculpture as on the head. Elytra a little longer and broader than the thorax, closely, finely, asperately punctured, finely pubescent. Abdomen finely and closely punctured and pubescent.

♂: unknown.

"Ind. or." (without further indication).

704. *Medon planatus*.

Medon planatus Bernh., W. E. Z. lxvi, 1916, p. 419.

Black, depressed, moderately shining, the elytra dark brown, more or less broadly yellow or brownish-yellow at the base, or entirely brownish-yellow. Thorax constricted before the middle. Antennæ blackish, the 1st joint brownish-yellow. Legs yellowish, the femora darker. Length 4 to 4.5 mm.

Near *M. planus*, but with the head a little widened behind and with a fine shining keel along the middle, the antennæ blackish, the thorax with distinct constriction just before the middle

† The description of the male characters given by me here refers to *M. planatus* Bernh., this insect having been determined as *planus* by Fauvel. Having now seen the types of *planus*, both of which are females, it is obvious that the two forms are distinct.

on each side, the fore-parts more finely and more closely punctured. Yet nearer to *M. humeralis*, but smaller, more shining, the antennæ shorter, the head with distinct shining keel, the median keel of the thorax more distinct and reaching from the base to the anterior border, the sides constricted before the middle, the puncturation of the fore-parts not quite so fine. Femora thickened.

♂: 5th ventral segment with small oval fossa in the middle near the base, its pubescence scarcely differentiated from that of the rest of the surface.

Bihar : Pusa. Assam : Naga Hills. Also in the Philippines.

705. *Medon gratus*, sp. n.

Narrow, elongate, rather shining; head black, thorax and elytra red, abdomen black, the posterior margins of the 5th and 6th segments reddish-yellow. Antennæ yellowish-red. Legs reddish-yellow. Length 3.5 mm.

Nearer to *M. propinquus* Bris. Very similar in colour, but with shorter and broader head and thorax, which are much more closely and more coarsely punctured. Head a little transverse, subquadrate, as broad as the thorax, the eyes small, the temples long, parallel, the posterior angles rounded; along the middle and on the front more or less impunctate, the rest of the surface covered with rather close umbilicate punctures and with a distinct coriaceous ground-sculpture; the sides setiferous. Antennæ with the 3rd to 6th joints a little longer than broad, gradually decreasing in length, 7th to 10th transverse. Thorax as long as broad, the sides straight and but slightly retracted behind, along the middle impunctate, with a much finer umbilicate puncturation than on the head, the ground sculpture similar, the sides setiferous. Elytra a little longer and broader than the thorax, rather closely, asperately punctured, finely pubescent. Abdomen rather closely, finely punctured and pubescent throughout.

♂: 6th ventral segment with nearly semicircular excision; posterior margin of the 5th with a few black setæ.

Chakrata district : Konain; Manjgaon; Chulli Khud; Deoban, alt. 6500 to 9000 feet.

706. *Medon monticola*, sp. n.

Narrow, elongate, moderately shining; head and elytra pitchy-black, the latter with the base scarcely, the apical margin narrowly reddish-testaceous; thorax pitchy-brown or reddish; abdomen pitchy, the posterior margin of the 5th and whole of the 6th segment reddish-yellow. Length 3 mm.

Smaller and much narrower than *M. gratus* and more obscurely coloured, narrower than the European *M. melanocephalus* F. Head quadrate, a little broader than the thorax,

very finely, closely punctured, finely pubescent. Antennæ with the 4th and 5th joints a little longer than broad, the 6th quadrate, the 7th to 10th a little transverse. Thorax slightly longer than broad, the sides almost parallel, very finely and closely punctured like the head, finely pubescent. Elytra about a third longer and a little broader than the thorax, finely and rather closely punctured and pubescent. Abdomen very finely and closely punctured, finely pubescent.

Chakrata district : Sijla Gad ; Manjgaon, alt. 6000 to 6500 feet.

707. *Medon pallidus*.

Lithocharis pallida Motsch., Bull. Mosc. xxxi, 1858, ii, p. 644.

A little smaller than *L. [Medon] melanocephala* [Europe], rather pale testaceous, especially on the elytra, abdomen, legs, antennæ, and palpi. Head dilated behind, thorax almost square with obtuse angles, elytra longer than the thorax. Punctuation rather strong on the head, thorax, and elytra.

“Indes orientales” (ex *Motschoulsky*).

708. *Medon fortépunctatus*.

Medon fortépunctatus Bernh., D. E. Z. 1902, p. 34.

Pitchy shining, the base of the elytra, margins of the abdominal segments, antennæ except the apex, mouth and legs ferruginous, the last four joints of the antennæ yellow ; head subopaque, strongly, thorax more strongly and closely punctured. Length 4.2 mm. (2 lin.).

In build and punctuation allied to *brunneus* Er., but differs in the darker colour, deeper punctuation of the thorax, much shorter head and much longer elytra as compared with the thorax, and the less closely punctured abdomen. Head as broad as the thorax, strongly transverse, black, rather coarsely and extremely closely punctured, but little shining, without median shining line, the temples moderately long, scarcely twice as long as the length of the eye. Antennæ short, the penultimate joints slightly but distinctly transverse, the basal half reddish-brown, the last joints gradually becoming bright yellow. Thorax distinctly narrower than the elytra, transverse, about a fourth broader than long, the sides straight, scarcely retracted behind, all the angles rounded, on the disc very coarsely and thickly punctured, without a shining middle line, on the posterior half with a narrow, sharp, and deeply impressed line, pitch-black, the reflexed margin ferruginous, very shining. Elytra almost half as long again as the thorax, much longer than broad, shining, pitch-black, the base, shoulders, anterior half of the sides and the epipleura ferruginous, less strongly

but much more closely punctured than the thorax, the puncturation rugose, finely grey pubescent. Abdomen pitchy-black, the posterior margins of the segments and the apex ferruginous, finely and moderately closely punctured, shining, finely grey pubescent. Legs reddish-yellow.

Ceylon : Trincomalee (ex *Bernhauer*).

709. *Medon niger*. (Fig. 46.)

Medon niger Cam., Trans. Ent. Soc. Lond. 1924, p. 185.

Black, shining, head and thorax moderately coarsely, closely, umbilicately punctured; antennæ ferruginous; legs testaceous. Length 4.75 mm.

Very similar in build to *M. piceus* Kr., but differing in colour and the much coarser puncturation. Head quadrate, very slightly transverse, as broad as the thorax, the temples parallel,

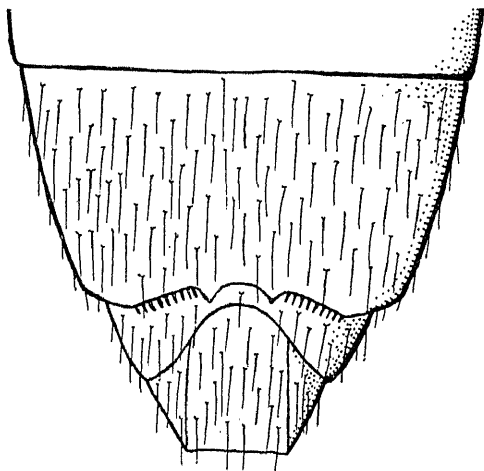


Fig. 46.—*Medon niger*, apex of abdomen of ♂; ventral surface.

the posterior angles briefly rounded, puncturation moderately coarse, finely umbilicate, closer at the sides than on the disc, the sides setiferous. Antennæ with 3rd joint a little longer than 2nd, 4th and 5th a little longer than broad, 6th to 8th about as long as broad, 9th and 10th slightly transverse. Thorax scarcely transverse, the sides straight, but slightly narrowed behind, the disc with a smooth median line throughout, the puncturation similar to, but rather finer than that of the head, sides setose. Elytra a little longer and broader than the thorax, rather less shining, closely, finely, somewhat asperately punctured. Abdomen less shining, very finely and closely punctured and pubescent throughout.

♂: 5th ventral segment with small crescentic emargination, the posterior border on either side with a row of short stiff setæ; 6th segment more deeply, broadly emarginate.

Mussoorie, Chakrata, and Simla districts.

710. *Medon castaneipennis*.

Medon castaneipenne Cam., Trans. Ent. Soc. Lond. 1924, p. 184.

Moderately shining, head and thorax black, closely and finely punctured, elytra castaneous or reddish-testaceous, finely and closely punctured; abdomen brown; antennæ, palpi, and legs testaceous. Length 5 mm.

Build and colour of *M. picea* Kr., but much less shining, much more finely and densely punctured and with the head shorter and broader than the thorax, transversely subquadrate, the base slightly emarginate, the posterior angles briefly rounded, eyes small; very finely and very closely punctured. Antennæ with 3rd joint scarcely longer than the 2nd, 4th and 5th scarcely longer than broad, 6th and 7th as long as broad, 8th to 10th transverse. Thorax slightly transverse, anterior angles obtuse, from thence obliquely truncate to the neck, posteriorly with the sides straight and very slightly narrowed, before the base in the middle with short, fine, sulcate, impunctate line, slightly impressed on either side, the puncturation as on the head. Elytra broader and a little longer than the thorax, closely and much more finely punctured. Abdomen extremely finely, closely punctured and finely pubescent throughout.

♂: 6th ventral segment very slightly emarginate.

♀: 6th ventral segment rounded.

Siwaliks: Kheri Rau; Mohan Rau.

711. *Medon umbilicatus*. (Fig. 47.)

Medon umbilicatus Cam., Trans. Ent. Soc. Lond. 1924, p. 184.

Black, moderately shining, the extreme base of the elytra scarcely perceptibly ferruginous; abdomen pitchy; head and thorax closely, moderately finely, umbilicately punctured; antennæ and legs ferruginous. Length 5 to 5.5 mm.

Differs from *M. castaneipennis* in the colour, less transverse head, narrower thorax, and the umbilicate puncturation. Head black, as broad as long, broader than the thorax, the eyes small, the temples long, scarcely widened, the posterior angles rather briefly rounded, closely covered with rather fine umbilicate punctures. Antennæ with 3rd joint distinctly longer than 2nd, 4th to 6th longer than broad, gradually decreasing in length, 7th as broad as long, 8th to 10th slightly transverse. Thorax scarcely transverse, anterior angles obtuse, obliquely truncate to the neck, the sides straight and but little narrowed

behind, disc with narrow median shining line throughout, the rest of the surface closely, umbilicately punctured, the punctures a little larger than on the head and with a tendency to coalesce. Elytra a little broader and longer than the thorax, finely, closely, asperately punctured. Abdomen very finely and closely punctured and pubescent throughout.

♂: 5th ventral segment very broadly, deeply emarginate; 6th deeply semicircularly emarginate.

Mussoorie, Chakrata, and Simla districts.

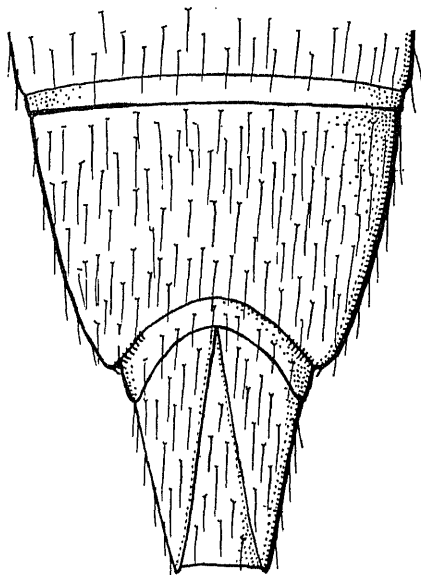


Fig. 47.—*Medon umbilicatus*, apex of abdomen of ♂;
ventral surface.

712. *Medon montivagans*, sp. n.

Black, moderately shining, the abdomen rather less, the antennæ pitchy, the last three or four joints reddish. Legs reddish-yellow. Length 4.75 mm.

In size and build somewhat resembling the European *M. fuscus* Mannh., but otherwise quite different. Head quadrate, as broad as the thorax, the eyes rather small, the temples parallel, the posterior angles rather briefly rounded, the base truncate, closely covered with moderately fine simple punctures. Antennæ with the 3rd joint a little longer than the 2nd, 4th to 7th longer than broad, gradually decreasing in length, the 8th quadrate, the 9th and 10th slightly transverse. Thorax as

long as broad, the sides straight, slightly retracted behind, posteriorly in the middle with smooth, shining raised line, evanescent in front, on each side behind with slight impression, closely covered with small flat granules, each with a fine puncture. Elytra a third longer and a little broader than the thorax, closely, rather finely, asperately punctured. Abdomen very finely, closely punctured and finely grey pubescent.

♂: unknown.

Nilgiri Hills (*H. L. Andrewes*).

713. *Medon flavescens*.

Lithocharis flavescens Motsch., Bull. Mosc. xxxi, 1858, ii, p. 643.

A little smaller and above all narrower than *L. [Medon] fuscula* [Europe], head more strongly narrowed in front, thorax longer, more parallel, narrower than the elytra and slightly narrowed towards them and about as long. Punctuation very weak, which gives the surface a shining appearance; on each side there is a row of punctures as in *Xantholinus*. Colour rather clear testaceous, slightly infusate on the head and abdominal segments.

"Indes orientales" (ex *Motschoulsky*).

714. *Medon vicinus*.

Lithocharis vicina Kr.*, Arch. Naturg. xxv, 1859, i, p. 137.

Moderately shining; head black, thorax pitchy-black, elytra ferruginous, abdomen reddish-brown, the posterior margins of the segments lighter. Antennæ and legs reddish-yellow. Length 4.8 mm.

In build somewhat resembling the European *M. fusculus* Mannh., but with smaller, less transverse head and less straight temples, sculpture of head much finer and not umbilicate, that of the thorax granular, that of the elytra more asperate. Head about as broad as long, very slightly broader than the thorax, eyes small, temples long, the angles rounded, finely and closely punctured. Antennæ with the 3rd joint longer than the 2nd, 4th to 6th a little longer than broad, gradually decreasing in length, 7th and 8th as long as broad, 9th and 10th slightly transverse. Thorax as long as broad, the sides straight and slightly retracted behind, the posterior angles rounded; along the middle with a narrow shining line, finely sulcate behind and with a small impression on each side, the sculpture close and granular. Elytra a little longer and broader than the thorax, finely, rather closely asperately punctured. Abdomen finely and rather closely punctured and pubescent.

"Ind. or."

715. *Medon brevisculus*.

Lithocharis breviscula Kr.*, Arch. Naturg. xxv, 1859, i, p. 137.

Head and thorax greasy lustrous, ferruginous ; elytra more shining, reddish-testaceous, more or less infusate about the suture ; abdomen reddish-brown. Antennæ and legs reddish-testaceous. Length 3·8 mm.

Head transversely subquadrate, a little broader than the thorax, a little narrowed in front, the eyes rather large, but rather shorter than the temples ; the posterior angles rounded, the base deeply and broadly emarginate, very finely coriaceous, with a few obsolete punctures. Antennæ with the 3rd joint longer than the 2nd, 4th to 7th a little longer than broad, gradually decreasing in length, 8th to 10th about as long as broad. Thorax trapezoidal, a little broader than long, the sides nearly straight and slightly converging behind, in the middle behind with a short shining line, the sculpture coriaceous like the head, but without punctures. Elytra a little longer and broader than the thorax, about as long as broad, closely, rugosely punctured. Abdomen very finely and closely punctured, rather shining.

♂ : 6th ventral segment with small crescentic emargination. Ceylon.

716. *Medon stilicinus*, n. n. (Plate II. fig. 2.)

Stiliculus lithocharoides Cam., Trans. Ent. Soc. Lond. 1924, p. 183.

Head black, thorax dark brown, moderately shining ; elytra testaceous, more or less infusate about the suture ; Abdomen blackish ; antennæ brown, legs testaceous. Length 4·75 mm.

Of somewhat abnormal appearance owing to the narrow neck and obliquely truncate thorax in front, but agrees in other respects with *Medon* and is near *breviusculus*. Head transversely subquadrate, a little broader than the thorax, the temples about as long as the eyes and slightly dilated, the posterior angles rounded, the base emarginate, vertex with a very short raised line, eyes rather large and prominent, the neck unusually narrow ; the surface very sparingly, exceedingly finely punctured and alutaceous, the puncturation much closer and more distinct in front. Antennæ with the 2nd joint shorter than the 3rd, 4th to 6th a little longer than broad, gradually decreasing in length, 7th and 8th about as long as broad, 9th and 10th slightly transverse. Thorax as long as broad, the anterior angles rounded, obliquely truncate to the neck, very slightly, straightly narrowed posteriorly to the rounded angles ; disc with obsolete smooth median line feebly sulcate behind, extremely finely and sparingly punctured, alutaceous. Elytra a little broader and longer

than the thorax, slightly longer than broad, testaceous, scarcely infusate posteriorly, moderately shining, extremely finely and rather closely punctured. Abdomen brownish-black, exceedingly finely and closely punctured and very finely pubescent throughout.

♂: 6th ventral segment slightly, arcuately emarginate.

Mussoorie district: Arni Gad. Sikkim: Gopaldhara.

717. *Medon andrewesi*, sp. n.

Closely allied to *M. stilicinus*, but differing in the following respects: the head is a little less shining, much less finely and much more closely punctured, the antennæ yellowish-red and a little shorter and stouter, the thorax is more closely punctured, the elytra rather infusate. Length 4 mm.

♂: 6th ventral segment crescentically emarginate.

Nilgiri Hills (*H. L. Andrewes*).

718. *Medon* (*Hypomedon*) *championi*.

Medon championi Cam., E. M. M. iv, 1919, p. 251.

Rufous, moderately shining, the elytra rufo-testaceous, with a broad, transverse, indeterminate pitchy-brown fascia; abdomen pitchy-red, the posterior margin of the 7th and whole of the 8th dorsal segment reddish-testaceous; antennæ and legs reddish. Length 4 mm.

Of exactly the same size, colour, and build as *M. knapperti* Bernh. from Sumatra and the Philippines, but differs in the rather coarser and closer puncturation of the thorax. Head transverse, subquadrate, the eyes moderately large, the temples briefly rounded, rather coarsely and closely punctured, the interspaces shining and without ground-sculpture. Antennæ with the 3rd joint slightly longer than the 2nd, the 4th and 5th a little longer than broad, 7th and 8th moniliform, 9th and 10th somewhat transverse, 11th conical. Thorax as broad as the head, one-sixth broader than long, the sides nearly straight, gradually converging behind to the rounded posterior angles; disc before the scutellum with a short, raised, smooth line, lightly impressed on either side; puncturation finer than that of the head; pubescence scanty, yellowish. Elytra a little broader than, and fully half as long again as the thorax, longer than broad, with a broad, ill-defined, pitchy fascia across the disc, leaving the base narrowly and the posterior margin more broadly reddish-testaceous; puncturation as coarse and close as on the thorax, but more superficial; pubescence yellow, moderate. Abdomen moderately coarsely and pretty closely punctured anteriorly, much more finely so posteriorly, somewhat closely covered with yellowish pubescence throughout.

Ceylon: Balangoda, alt. 1770 feet (*G. Lewis*).

719. *Medon* (*Hypomedon*) *discipennis*.

Medon discipennis Fauv.*, Rev. d'Ent. xiv, 1895, p. 230.

Head and thorax shining, ferruginous, the former sometimes infusate on the disc; elytra less shining, pitchy, the base narrowly, the apex more broadly reddish; abdomen scarcely shining, brown, the 5th segment transversely blackish across the middle, its posterior margin and that of the 6th lighter. Antennæ and legs reddish-yellow. Length 4 mm.

In colour very similar to *M. championi*, but the head and thorax more shining, more coarsely and less closely punctured, the former much shorter and more transverse. Head transverse, subquadrate, a little narrower than the thorax, the temples parallel, a little longer than the eyes, the posterior angles nearly rectangular, the base broadly and slightly emarginate; sculpture consisting of rather large, close umbilicate punctures, on the vertex with a small impunctate space, the sides with black setæ. Antennæ with the 3rd to 7th joints longer than broad, gradually decreasing in length, the 8th to 10th quadrate. Thorax moderately transverse, the sides straight, a little retracted behind, the angles rounded, along the middle with a smooth, shining, finely sulcate line, the sculpture as on the head, but a little less close, the sides with black setæ. Elytra about a fourth longer and a little broader than the thorax, rather closely, finely, and asperately punctured, the pubescence rather long, yellow, the sides with black setæ. Abdomen very finely and closely punctured, the pubescence rather long, close, and yellowish.

Burma: Carin Asciiui Ghécu (*L. Fea*).

720. *Medon* (*Hypomedon*) *beesoni*. (Plate II. fig. 3.)

Medon beesoni Cam., Trans. Ent. Soc. Lond. 1924, p. 185.

Shining red, elytra fuscous, the base narrowly, the apex more broadly reddish-testaceous; abdomen brown; antennæ and legs reddish-testaceous. Length 3.5 mm.

Similar in colour and build to *M. discipennis* Fauv., but smaller and the puncturation of the head and thorax very much finer and closer. Head red, shining, transversely quadrate, as broad as the thorax, the posterior angles rectangular, temples straight, parallel, the base emarginate, very finely, closely punctured and with some fine black setæ; gular sutures separated. Antennæ short, 2nd joint shorter than 3rd, 4th slightly, 5th and 6th scarcely longer than broad, 7th to 10th transverse. Thorax distinctly transverse, widest at the anterior angles, the sides straight behind, posterior angles rounded, disc with fine smooth median line throughout, puncturation as on the head, sides setiferous. Elytra as wide as and distinctly longer

than the thorax, shining, very finely and closely punctured, finely pubescent.

♂: 6th ventral segment broadly, slightly emarginate.

Bihar : Singbhum (*C. F. C. Beeson*).

721. *Medon* (*Hypomedon*) *nilgiriensis*, sp. n.

Shining red, the elytra pitchy, with the base narrowly reddish, the apical margin more broadly reddish-yellow; abdomen less shining, the 5th (visible) segment (except the apical margin) blackish. Base of the antennæ red (the rest wanting). Legs reddish-yellow. Length 4.5 mm.

Near *M. discipennis* but a little larger, similarly but more brightly coloured, the puncturation of the head and thorax more sparing but of similar character, the thorax a little less transverse; from *M. immsi* it differs in the colour-pattern of the elytra and the much coarser and less close puncturation of the head and thorax.

Nilgiri Hills (*H. L. Andrewes*).

722. *Medon* (*Hypomedon*) *immsi*.

Medon immsi Bernh.*, W. Z. B. lxiv, 1914, p. 99.

Medon rubicundus Cam., Trans. Ent. Soc. Lond. 1918, p. 73.

Shining, rufous, elytra testaceous, with the base and a variable extent of the disc pitchy; abdomen pitchy-red, the seventh and eighth segments broadly reddish-testaceous posteriorly; antennæ, palpi, and legs reddish-testaceous. Length 4 mm.

Much more finely punctured than *M. discipennis*, the head larger and less transverse, the elytra less extensively infuscate. Rather robust. Head large, as broad as the thorax in the female, a little broader in the male, transverse, quadrate, eyes moderate, the temples longer than their diameter, parallel, posterior angles rectangular; vertex almost impunctate, the front with a few fine scattered umbilicate punctures, the sides and temples more closely and less finely punctured, the punctures umbilicate and mixed with a few finer simple punctures; setæ black. Antennæ scarcely as long as the head and thorax, the 2nd and 4th joints shorter than the 3rd, 5th to 9th slightly transverse, 10th about as long as broad, 11th conical. Thorax a little narrower than the head (especially in male), slightly transverse, widest at the anterior angles, narrowed almost in a straight line posteriorly; puncturation finer than on the head, superficial and scattered, scarcely umbilicate; sides with seven or eight long black setæ. Elytra parallel, a little longer than the thorax, about as long as broad, testaceous, less shining than the fore-parts, with an indeterminate triangular pitchy marking occupying the base and extending more or less along the suture; puncturation close, fine, and somewhat asperate;

pubescence yellowish, setæ black, Abdomen pretty finely and closely punctured, with rather fine and long pubescence, coriaceous.

♂: 6th segment broadly and feebly emarginate.

Dehra Dun, in decaying logs. Also in Singapore.

723. *Medon* (*Hypomedon*) *latecinctus*.

Medon latecinctus Fauv., Rev. d'Ent. xxiv, 1905, p. 139.

Near *M. ruficollis* Kr., but quite different. Parallel, pitchy, the head and thorax pitchy-black, very shining, with sparing black pubescence, the elytra and abdomen somewhat shining, rather densely covered with brownish pubescence; the mouth, apical margin of the front, antennal tubercles, antennæ, the margins of the abdominal segments (the 6th and 7th rather broadly), the legs, the base and apex of the elytra rather broadly, reddish-testaceous. Antennæ moderate, the 4th joint longer than broad, 5th quadrate, 6th and 7th slightly, 8th to 10th more strongly transverse, 11th pointed, as long as the two preceding together. Head transversely quadrate, the sides finely, the front rather strongly punctured, temples parallel, the posterior angles almost rectangular. Thorax scarcely narrower than the head, quadrate, convex, sparingly and rather finely punctured, the sides scarcely retracted towards the base, all the angles obtuse. Elytra a little longer than broad, one-fourth broader than the thorax, finely, closely, subasperately punctured. Abdomen sparingly and very finely punctured. Length 3.75 mm.

Sexual differences unknown.

Burma: Tenasserim. Also in Java (ex *Fauvel*).

724. *Medon* (*Hypomedon*) *basalis*.

Medon basalis Cam., E. M. M. lv, 1919, p. 252.

Red, shining, the elytra reddish-testaceous, the posterior half black, the abdomen reddish-brown; antennæ and legs reddish-testaceous. Length 4 mm.

Near *M. immsi*, but with smaller eyes, longer thinner antennæ, different colour pattern, coarser puncturation of thorax, and more sparing puncturation of the elytra. Head large, transversely quadrate, the eyes small, the base emarginate, the temples rounded; puncturation coarse, close, obsoletely umbilicate in front, less coarse and more obsolete posteriorly and on the temples, the interspaces without ground sculpture. Antennæ with the 3rd joint a little longer than the 2nd, 4th, 5th, and 6th longer than broad, gradually decreasing

in length, 7th and 8th as long as broad, 9th and 10th scarcely transverse. Thorax a little narrower than the head, somewhat transverse, the anterior angles briefly rounded, the sides gradually convergent backwards to the broadly rounded angles; disc with a fine impressed median line throughout; puncturation coarse and close, as on the front of the head, obsoletely umbilicate; pubescence scanty. Elytra a little longer and broader than the thorax, longer than broad, the anterior half reddish-testaceous, the posterior portion black, without, however, a definite line of demarcation; puncturation moderately coarse, but superficial and rather close, pubescence scanty. Abdomen reddish, moderately finely and somewhat closely punctured anteriorly, more sparingly so posteriorly; pubescence yellowish, moderate.

Ceylon: Dikoya, alt. 3800–4200 feet (*G. Lewis*).

725. *Medon* (*Hypomedon*) *debilicornis*.

Lithocharis debilicornis Woll., Cat. Mad. Col. 1857, p. 194; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 322, t. 4, fig. 8; id., Ann. Mus. Civ. Gen. xiii, 1878, p. 515; Muls. et Rey, Ann. Soc. Linn. Lyon, xxv, 1877, p. 164; Ganglb., Käf. Mitt. Eur. ii, 1895, p. 523; Sharp, Faun. Haw. iii, v, 1908, p. 545 (*Chloëcharis*).

Lithocharis ægyptiacus Motsch., Bull. Mosc. xxxi, 1858, ii, p. 644.

Lithocharis brevicornis Allard, Ann. Soc. Ent. Fr. (3) v, 1857, p. 747, t. 14, f. 11.

Lithocharis ocellatus Waterh., Ann. Mag. Nat. Hist. (4) xviii, 1876, p. 108; id., Phil. Trans. Roy. Soc. Lond. clxviii, 1879, p. 515.

Lithocharis rufulus Lynch, Bol. Ac. Cordoba, vii, 1884, p. 259; Fauv., Rev. d'Ent. vii, 1888, p. 25.

Moderately shining; head and thorax red, abdomen brownish-red, the posterior margins of the last two segments reddish-yellow; elytra reddish-yellow. Antennæ yellowish-red. Legs yellow. Length 2.3 to 2.5 mm.

Head transverse, subquadrate, as broad as the thorax, the eyes moderate, the temples longer, parallel, the posterior angles briefly rounded, the base slightly emarginate; rather strongly coriaceous, along the middle with narrow impunctate line, the rest covered with superficial, umbilicate, moderately close punctures, sparingly pubescent, the sides with some longer hairs. Antennæ short, the 3rd joint as long as the 2nd, 4th short, oval, 5th to 7th moniliform, 8th to 10th transverse. Thorax distinctly transverse, the sides straight, retracted behind, coriaceous like the head, along the middle with a fine impunctate line, the puncturation as on the head. Elytra about a third longer and a little broader than the thorax, rather finely, closely, asperately punctured and with a fine yellow pubescence. Abdomen very finely, rather sparingly punctured and pubescent, finely coriaceous.

Dehra Dun. Apparently cosmopolitan.

726. *Medon* (*Hypomedon*) *minutissimus*.

Medon minutissimus Bernh., D. E. Z. 1902, p. 35.

Very closely allied to *M. debilicornis*, similarly coloured but less shining, smaller and narrower; the head and thorax less transverse, the elytra a little shorter; the sculpture of the head and thorax is similar, but that of the elytra is a little coarser and less close. Length 2 mm.

Ceylon: Anuradhapura; Colombo (*Cameron*).

727. *Medon* (*Hypomedon*) *nigriventris*

Hypomedon (*Chloëcharis*) *nigriventris* Cam., Trans. Ent. Soc. Lond. 1914, p. 542.

Narrow, parallel, reddish-testaceous, elytra infusate on the disc, abdomen black, posterior margins of the segments narrowly, and whole of the last, reddish-testaceous. Antennæ, palpi, and legs testaceous. Length scarcely 3 mm.

Narrower than *H. debilicornis* Woll., and easily distinguished by the much longer and not transverse head, which is also much more closely and deeply punctured, the longer antennæ, and the black abdomen. In build very similar to *H. melanocephalus* F. Head square, as broad as the elytra, temples long, parallel, posterior angles rounded, eyes small; puncturation rather coarse, close and umbilicate, very similar to the genus *Astenus*. Antennæ with 2nd and 3rd joints of equal length, 4th a little longer than broad, 5th to 7th moniliform, 8th to 10th transverse, 11th short, oval. Thorax a little narrower than the head, about as long as broad, a little wider at the anterior angles, which are obtuse, very slightly narrowed backwards to the rounded posterior angles; puncturation much less coarse, close, and deep than on the head, not umbilicate; disc with a narrow, smooth, central line. Elytra about a third longer than the thorax, longer than broad, rather coarsely, closely, somewhat rugosely punctured, obsolescent posteriorly; disc infusate, leaving the base and apex clear. Abdomen rather closely and not very finely punctured anteriorly, more sparingly and finely behind; pubescence moderate, yellow.

♂: unknown.

Ceylon: Dikoya, 4000 feet above sea-level. British Museum Collection.

Genus **LITHOCHARIS** Boisd.

Lithocharis Boisd. ot. Lacord., Faun. Ent. Par. i, 1835, p. 431; Thoms., Skand. Col. ii, 1860, p. 204; Fauvel, Bull. Soc. Linn. Norm. (2) i, 1868, p. 11; Sharp, Trans. Ent. Soc. Lond. 1876, p. 254; Muls. et Rey, Ann. Soc. Linn. Lyon, xxiv, 1877, p. 172; Lynch, Bol. Ac. Cordoba, vii, 1884, p. 252; Ganglb., Käf. Mitt. Eur. ii, 1895, p. 524; Casey, Trans. Ac. St. Louis, xv, 1905, p. 149. *Metazyodonta* Casey, Bull. Calif. Ac. ii, 1886, pp. 29, 232.

Differs from *Medon* in the following respects: the eyes are larger, occupying the greater part of the sides of the head,

the labrum has a small tooth in the middle and on each side of it a small emargination, the prosternal process is quite short, the prosternal epimera wanting, the abdomen scarcely keeled below in the middle of the base. The right mandible with four, the left with three teeth. The females of some of the species are extremely difficult to separate, but the males are readily distinguished by their secondary sexual characters, the 5th ventral segment having black teeth on the posterior margin. The genus is found throughout the world in dejecta, vegetable debris, etc. In view of the difficulty in separating the females, I give two keys, one based on the male characters.

Key to the Species based on the male characters.

- | | | |
|--|----|----------------------------------|
| 1. 6th ventral segment excised, on each side of the excision with a flat brush of <i>yellow</i> hairs; 5th ventral segment with black teeth on the posterior margin..... | 2. | |
| 6th ventral segment excised, but without such brushes | 3. | |
| 2. Pectinate area of 5th ventral segment broader, on each side with several long black hairs; the brush of yellow hairs on the 6th segment more developed.. | | <i>ochracea</i> Gr., p. 158. |
| Pectinate area of 5th ventral segment narrower and produced a little backwards in the middle, without long hairs on each side; the brush of yellow hairs on 6th segment less developed | | <i>penicillata</i> Cam., p. 161. |
| 3. Pectinate area of 5th segment slightly and obtusely produced backwards in the middle | 4. | |
| Pectinate area more or less emarginate . | 5. | |
| 4. Teeth of pectinate area equal | | <i>uvula</i> Kr., p. 157. |
| Teeth of pectinate area much longer at the sides | | <i>fuscipennis</i> Kr., p. 160. |
| 5. Pectinate area on each side with long black setæ | | <i>nigriceps</i> Kr., p. 159. |
| Pectinate area on each side without black setæ..... | 6. | |
| 6. Pectinate area with long black setæ intermixed | | <i>sororcula</i> Kr., p. 162. |
| Pectinate area without such setæ | 7. | |
| 7. 6th ventral segment produced into a small median quadrate lobe and deeply emarginate on each side | | <i>lamellifer</i> Cam., p. 161. |
| 6th ventral segment simply excised..... | | <i>vilis</i> Kr., p. 162. |

Key to the Species.

- | | |
|--|---------------------------|
| 1. Species densely and finely pubescent, subsericeous. Head black, thorax ferruginous and black subsericeous, more or less shining on the disc | <i>uvula</i> Kr., p. 157. |
| Species less pubescent, not subsericeous, more shining..... | 2. |

- | | |
|--|----------------------------------|
| 2. Head more quadrate, more parallel behind the eyes, the posterior angles more briefly rounded..... | 3. |
| Head less quadrate, more rounded behind the eyes, the posterior angles more broadly rounded | 5. |
| 3. Elytra distinctly longer than the thorax. Elytra slightly longer than the thorax .. | <i>vilis</i> Kr., p. 162. |
| 4. Median smooth line of thorax much more sharply defined, subcarinate | 4. |
| Median smooth line of thorax ill-defined. | <i>penicillata</i> Cam., p. 161. |
| 5. Antennæ more slender, the penultimate joint distinctly longer than broad | <i>sororcula</i> Kr., p. 162. |
| Antennæ stouter, the penultimate joints not or but slightly longer than broad... | <i>lamellifer</i> Cam., p. 161. |
| 6. Median line of thorax sharper, well defined, subcarinate | 6. |
| Median line of thorax less defined, not subcarinate..... | 7. |
| 7. Head and thorax less finely punctured .. | <i>ochracea</i> Gr., p. 158. |
| Head and thorax more finely punctured. | <i>nigriceps</i> Kr., p. 159. |
| | <i>fuscipennis</i> Kr., p. 160. |

728. *Lithocharis uvida*.

Lithocharis uvida Kr., Arch. Naturg. xxv, 1859, i, p. 138.

Nearly opaque, finely and densely pubescent throughout. Head black, thorax ferruginous-red, elytra ochraceous, more or less broadly infusate on the disc. Abdomen brown, the posterior margins of the segments and the apex reddish. Antennæ reddish-testaceous. Legs yellow. Length 5 mm.

Rudely recognized by the almost opaque, subsericeous, short, dense pubescence. Head subquadrate, scarcely widened behind, the base truncate, the eyes a little longer than the temples, a little narrower than the thorax, very finely and closely punctured. Antennæ with the 3rd joint distinctly longer than the 2nd, 4th to 10th longer than broad, gradually decreasing in length, the penultimate slightly longer than broad. Thorax trapezoidal, about as long as broad, along the middle with fine raised (but not shining) line, as closely but less finely punctured than the head. Elytra about a third longer and a little broader than the thorax, closely, finely, and roughly punctured. Abdomen closely and very finely punctured.

♂: 6th segment crescentically excised; 5th in the middle slightly, obtusely produced backwards, very slightly, broadly emarginate on each side, the produced and emarginate parts closely set with rather fine black teeth.

Ceylon: Kandy; Dikoya. India: Nilgiri Hills; Dehra Dun. Also in Singapore, Penang, Sumatra, S. China, and Formosa.

729. *Lithocharis ochracea*. (Fig. 48.)

Lithocharis ochracea Gr., Micr. Brunsv. 1802, p. 59; Er., Käf. Mark. Brand. 1837-39 (1839), p. 516; id., Gen. Spec. Staph. 1839-40, p. 623; Kr., Naturg. Ins. Deutsch. ii, 1856-58, p. 716; Thoms., Skand. Col. ii, 1860, p. 204; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 320; Muls. et Rey, Ann. Soc. Linn. Lyon, xxiv, 1877, p. 174; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 525; Cam., E. M. M. lxiv, 1928, pp. 244, 247, fig. 1.

Greasy lustrous, pubescent; head black, thorax yellowish-red, elytra yellow, more or less infuscate on the disc, abdomen brown, the posterior margins of the segments lighter. Antennæ reddish-yellow. Legs yellow. Length 3.5 to 4 mm.

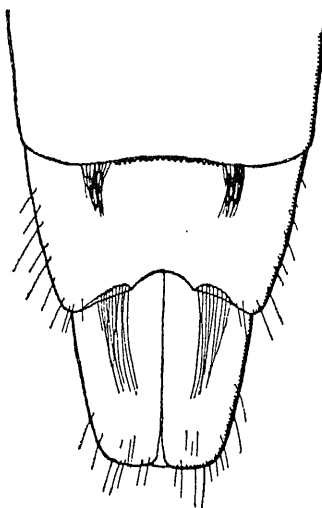


Fig. 48.—*Lithocharis ochracea*, apex of abdomen of ♂; ventral surface.

Head almost as broad as the thorax, transverse, slightly wider behind, the posterior angles rather broadly rounded, the base truncate, the eyes longer than the temples, very finely and closely punctured. Antennæ with the 3rd joint longer than the 2nd, 4th to 8th longer than broad, gradually decreasing in length, 9th and 10th as long as broad. Thorax as long as broad, the sides straight, slightly retracted behind, along the middle with fine shining line, the puncturation less fine and rather closer than that of the head. Elytra about a third longer and a little broader than the thorax, more closely and roughly punctured. Abdomen very finely and closely punctured throughout.

♂: 6th ventral segment with moderately broad and moderately deep arcuate excision, on each side with a long flat brush of *yellow* hairs; 5th broadly, very slightly emarginate, the emargination with short, fine, black pectinations, on each side with a few longer black hairs.

Simla Hills. Also in Europe, Zanzibar, Mauritius, Jamaica. Probably cosmopolitan.

730. *Lithocharis nigriceps*. (Fig. 49.)

Lithocharis nigriceps Kr., Arch. Naturg. xxv, 1859, i, p. 139; Cam.,

E. M. M. lxiv, 1928, p. 246, 247, fig. 7.

Lithocharis parviceps Shp. Trans. Ent. Soc. Lond 1874, p. 66.

Very similar to *L. ochracea*, but the head more distinctly punctured, more shining, with a fine impunctate median line, the shape and size of eyes scarcely different. Thorax

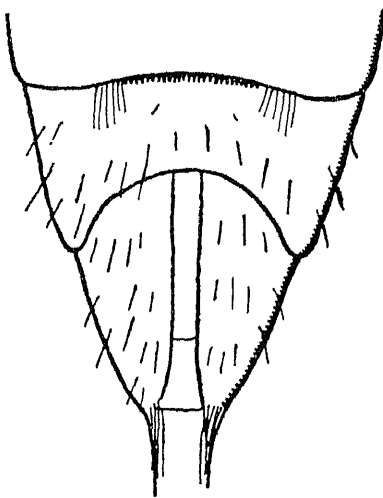


Fig. 49.—*Lithocharis nigriceps*, apex of abdomen of ♂; ventral surface.

with much more defined, subcarinate, smooth central line, less finely punctured; elytra distinctly less shining. Length 4 mm.

♂: 6th ventral segment broadly and deeply arcuately excised; 5th broadly and slightly emarginate, the emargination furnished with short black pectinations, the posterior border on each side of the emargination with a few long black setæ.

Ceylon. India: Pusa; Simla Hills; Dehra Dun. Also in Singapore, Sumatra, S. China and Japan.

731. *Lithocharis fuscipennis*. (Fig. 50.)

Lithocharis fuscipennis Kr.*, Arch. Naturg. xxv, 1859, i, p. 138;
Cam., E. M. M. lxiv, 1928, pp. 245, 247, fig. 3.

Head more shining than the rest of the body, dark ferruginous-red or black, thorax red, elytra reddish-yellow, infuscate behind; abdomen reddish-brown, the posterior margins of the segments lighter. Antennæ and legs reddish-yellow. Length 4 mm.

Near *L. ochracea* Gr., but with the head more shining, not widened behind, more finely punctured, the thorax less closely punctured, the median smooth line more defined, subcarinate. Head subquadrate, as wide as the thorax, the posterior angles

Fig. 50.

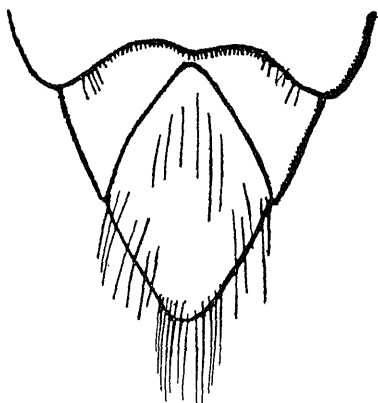


Fig. 51.

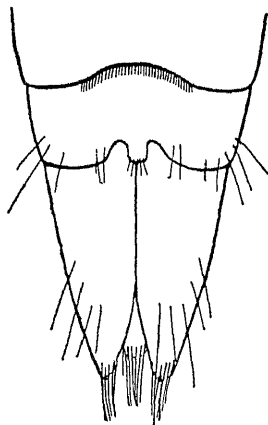


Fig. 50.—*Lithocharis fuscipennis*, apex of abdomen of ♂; ventral surface.

Fig. 51.—*Lithocharis lamellifer*, apex of abdomen of ♂; ventral surface.

rather broadly rounded, very finely, rather closely punctured. Antennæ with the penultimate joints as long as broad. Thorax trapezoidal, along the middle with well defined, somewhat raised, smooth, shining line, less finely punctured than the head. Elytra about a third longer than the thorax, closely and finely punctured and pubescent. Abdomen closely and finely punctured and pubescent throughout.

♂: 5th ventral segment obtusely produced in the middle and broadly emarginate on each side and furnished with short black pectinations; 6th deeply, broadly, but acutely excised, the margins (except towards the apex of the excision) with fine black setæ.

Ceylon. Also in the Malay Peninsula and Sumatra.

732. *Lithocharis lamellifer*. (Fig. 51.)

Lithocharis lamellifer Cam., E. M. M. lxiv, 1928, pp. 245, 247, fig. 4.

Near *L. ochracea*, but less robust, the head more suborbicular, a little more shining and a little more finely punctured with fine median impunctate line, the antennæ a little longer and thinner, the penultimate joints distinctly longer than broad. Length 4 mm.

♂: 6th ventral segment in the middle with a little quadrate lobe, on each side deeply arcuately emarginate; 5th broadly emarginate, the emargination furnished with rather long, slender pectinations.

Chakrata district: Saiya, alt. 3600 feet.

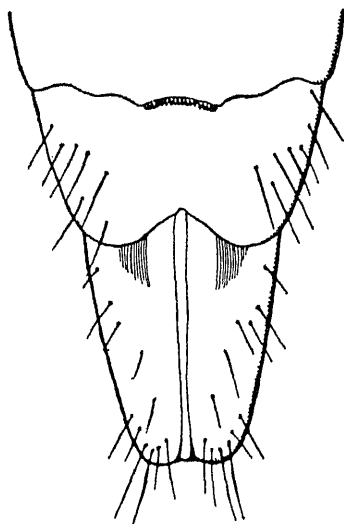


Fig. 52.—*Lithocharis penicillata*, apex of abdomen of ♂; ventral surface.

733. *Lithocharis penicillata*. (Fig. 52.)

Lithocharis penicillata Cam., E. M. M. lxiv, 1928, pp. 244, 247, fig. 2.

Very similar to *L. ochracea*, but the head transversely subquadrate, in the middle with fine impunctate line (as in *nigriceps*) and the eyes much larger, the thorax with the median line more defined and subcarinate. Length 4 mm.

♂: 6th ventral segment with moderately broad subtriangular excision, the posterior margin on either side of the excision with a flat brush of yellow pubescence (much less developed

than in *L. ochracea*); 5th ventral segment in the middle produced a little backwards, the produced portion slightly emarginate and furnished with short black pectinations.

Dehra Dun. Also in the Malay Peninsula, Singapore, and S. China.

734. *Lithocharis sororcula*. (Fig. 53.)

Lithocharis sororcula Kr., Arch. Naturg. xxv, 1859, i, p. 140; Cam., E. M. M. lxiv, 1928, pp. 245, 247, fig. 5.

Near *L. ochracea*, similarly coloured and punctured, but smaller (3 mm.) and narrower, the head subquadrate, scarcely dilated behind, the eyes a little larger.

♂: 6th ventral segment with moderately broad and deep subtriangular excision, the apex rounded; 5th broadly and

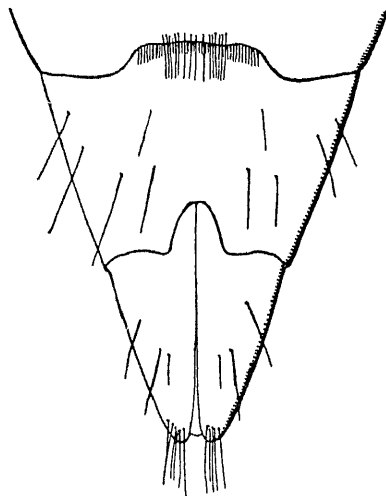


Fig. 53.—*Lithocharis sororcula*, apex of abdomen of ♂; ventral surface.

abruptly emarginate, the emargination furnished with rather short black pectinations, in the middle with some longer black setæ in addition.

Ceylon. India: Dehra Dun; Siwaliks. Also in Singapore and the West Indies.

735. *Lithocharis vilis*. (Fig. 54.)

Lithocharis vilis Kr., Arch. Naturg. xxv, 1859, i, p. 139; Cam., E. M. M. lxiv, 1928, pp. 246, 247, fig. 10.

Very near *L. ochracea*, similarly coloured, but a little more robust, the head transversely subquadrate, as broad as the thorax, not at all widened behind, the posterior angles broadly

rounded, more shining, less finely and less closely punctured, the eyes larger, the thorax a little less closely punctured. Length 3.75 to 4 mm.

♂: 6th ventral segment broadly and deeply excised, the apex of the excision rounded; 5th broadly and slightly emarginate, the emargination furnished with short, rather stout black pectinations.

Ceylon: Kandy; Belligam. India: Nilgiri Hills. Also in Penang, Singapore, and Samoa.

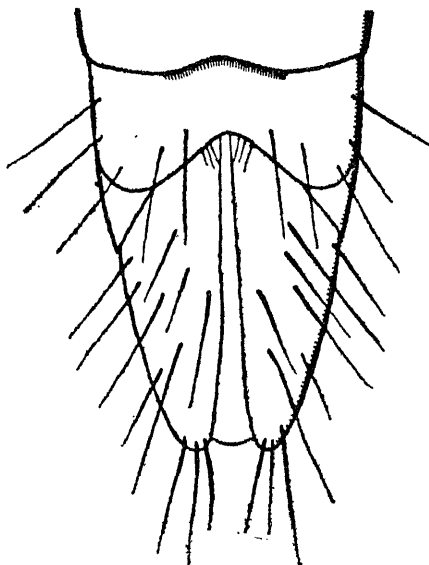


Fig. 54.—*Lithocharis vilis*, apex of abdomen of ♂; ventral surface.

Genus ISOCHILUS Sharp.

Isocheilus Shp., Ann. Mag. Nat. Hist. (6) ii, 1889, p. 263.

Isochilus Fauv., Rev. d'Ent. xiv, 1895, p. 227.

Facies and coloration recalling *Lithocharis*. Neck broad; gular sutures distinct, slightly converging to the neck. Labrum broad, in the middle with an abrupt shallow emargination, the anterior border of it with a little triangular notch in the middle. Mandibles curved and pointed, each with three sharp teeth. Maxillæ, palpi, and tongue as in *Medon*. Prosternum carinate, its process very short, pointed; stigma exposed. Mesosternal process short and acute, the coxæ contiguous. Abdomen without basal ventral keel. Anterior tarsi strongly dilated in both senses, the other tarsi as in *Medon*.

Only one species is known in our Fauna.

736. *Isochilus staphylinoides*. (Fig. 55.)

Lithocharis staphylinoides Kr., Arch. Naturg. xxv, 1859, i, p. 134.

Head and thorax rather shining, the former black, the latter pitchy-black; elytra and abdomen less shining, the former brownish-yellow, broadly infuscate along the sutural region, the latter pitchy, the posterior margins of the segments narrowly lighter. Antennæ reddish. Legs yellow. Length 5·75 to 6 mm.

Head large, transverse, subquadrate, a little broader than the thorax, the temples straight, slightly diverging behind

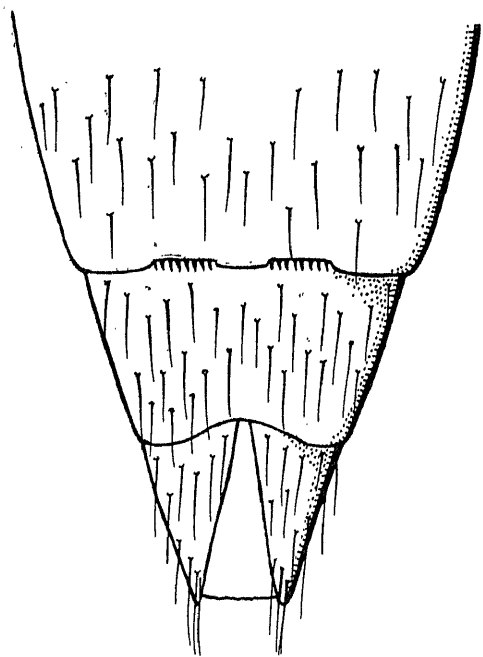


Fig. 55.—*Isochilus staphylinoides*, apex of abdomen of ♂ ; ventral surface.

(especially in the male), the posterior angles briefly rounded, the base deeply emarginate, the eyes large, a little longer than the temples; very finely and closely punctured, at the base and sides less finely, more closely and rugosely punctured, here and there with a few larger scattered umbilicate punctures. Antennæ slender, all the joints longer than broad, gradually decreasing in length, the 10th distinctly longer than broad. Thorax slightly transverse, trapezoidal, the angles rounded, the sides straight, retracted behind, along the middle with smooth

shining line, the sculpture consisting of close fine granules, each with a minute puncture. Elytra about a half longer and a little broader than the thorax, with a very similar sculpture. Abdomen very finely and closely punctured. The whole insect is distinctly pubescent (especially on the abdomen) and with several black setæ.

♂: 6th ventral segment with broad, shallow, arcuate emargination; 5th emarginate on each side of the middle, the emarginations furnished with numerous fine black spines, the posterior border gently rounded between the emarginations and without spines.

In vegetable detritus.

Ceylon. Also in Singapore and Japan.

(Genus **CHARICHIRUS** Sharp.

Charichirus Shp., Ann. Mag. Nat. Hist. (6) ii, 1889, p. 262; Fauv., Rev. d'Ent. xiv, 1895, p. 227.

Facies of certain species of *Medon*, but at once distinguished by the central tooth on the anterior border of the labrum and the exposed prothoracic stigmata. The neck is stout, gular sutures separate, gradually converging behind. Prosternum keeled, its process moderate, laterally compressed. Mesosternal process short, acute, not extending much between the coxæ, these contiguous. Abdomen with the 1st ventral segment keeled in the middle. Tarsi as in *Medon*, the anterior not dilated. Mandibles strong, curved, and pointed, the right with four, the left with three teeth. Mentum strongly transverse, the anterior border scarcely emarginate, the sides angulate. Tongue membranous, divided to the base into two widely separated lobes rounded in front, the space between furnished with numerous setæ. Paraglossæ well developed, extending beyond the tongue, ciliate. Labial palpi 3-jointed, the 1st joint narrowed at the base and a little widened towards the apex, 2nd longer than the 1st, narrowed at base and dilated apically, 3rd much narrower and about half as long as the 2nd. Maxillary palpi and lobes much as in *Medon*. The species are found in dead leaves etc.

Key to the Species.

1. Elytra black, the suture and posterior margin narrowly, the postero-external angles more broadly reddish-yellow... *princeps* Fauv., p. 66.
Elytra otherwise 2.
2. Elytra black, a broad triangular marking extending from the base to the apex of the suture and common to both elytra, red; the posterior margin narrowly, the postero-external angles more broadly reddish-yellow *pictipennis*, sp. n., p. 166.
Elytra otherwise 3.

3. Elytra black, with a broad red fascia posteriorly which extends forwards along the suture nearly to the scutellum. *chinensis* Boh., p. 167.
 Elytra brown, the reflexed and posterior margins indeterminately reddish-testaceous *ceylonicus* Cam., p. 168.

737. *Charichirus princeps*.

Medon princeps Fauv.*, Rev. d'Ent. xiv, 1895, p. 225.

Black, moderately shining, the elytra with the suture very narrowly, the posterior margin narrowly, and the postero-external angles broadly reddish-yellow. Abdomen with the posterior margins of the 5th and 6th segments reddish-yellow. Antennæ ferruginous. Legs yellow. Length 7.75 to 8 mm.

Larger and more robust than *C. chinensis*, with longer antennæ, differently coloured elytra and more coarsely sculptured fore-parts. Head large, transverse, wider than the thorax, the eyes moderate, the temples very slightly dilated, longer than the eyes, the posterior angles rounded, the base truncate, the vertex with short, scarcely perceptible keel, the whole surface closely, rugosely punctured, finely pubescent and with some fine black setæ. Antennæ with all the joints longer than broad, gradually decreasing in length, the 10th only a little longer than broad. Thorax slightly transverse, trapezoidal, the sides straight, retracted behind, along the middle with smooth impunctate, shining line, the rest of the surface closely covered with granules, each with a minute puncture, the sides with some long black setæ. Elytra a little longer and broader than the thorax, with very close, finer granules and with fine, close, brownish pubescence. Abdomen extremely finely, closely punctured, finely coriaceous, with very fine, close, brownish pubescence, almost sericeous.

According to Fauvel the 6th and 7th ventral segments in the ♂ (5th and 6th in our enumeration) are broadly and slightly emarginate, the 6th with close black pectinations on the emargination.

Burma: Carin Cheba; Carin Asciuii Ghécu, alt. 500 to 1500 metres.

738. *Charichirus pictipennis*, sp. n.

Black, scarcely shining, the elytra with a large triangular red marking common to both, with the base at the base of the elytra and the apex at the posterior end of the suture, the posterior margin narrowly, the postero-external angles more broadly reddish-yellow. Abdomen with the posterior margins of the segments narrowly reddish. Antennæ red. Legs yellow. Length 6 mm.

At once recognized by the marking of the elytra. Head large, subquadrate, slightly transverse, broader than the

thorax, the temples longer than the eyes, quite straight and parallel, the posterior angles briefly rounded, the base deeply emarginate, closely covered with small granules except for a small smooth space on the vertex. Antennæ as in *princeps*. Thorax as in *princeps*, but with the median line finer and obsolete in front, the sculpture as on the head. Elytra about a fourth longer and a little broader than the thorax, closely granular, finely pubescent. Abdomen very finely and closely punctured, finely, closely pubescent.

♂: 6th ventral segment broadly and slightly emarginate; 5th broadly and slightly emarginate, the emargination furnished with closely set black spines.

Nilgiri Hills, alt. 3500 feet (*H. L. Andrewes*).

739. *Charichirus chinensis*. (Fig. 56.)

Lathrobium chinense Boh., *Rosa Eugon.* 1858, p. 32.

Lithocharis dimidiatus Motsch., *Bull. Mosc.* xxxi, 1858, ii, p. 645.

Lithocharis obliquus Walk., *Ann. Mag. Nat. Hist.* (3) iii, 1859, p. 52.

Lithocharis spectabilis Kr., *Arch. Naturg.* xxv, 1859, i, p. 135

Shp., *Ann. Mag. Nat. Hist.* (6) iii, 1889, p. 227.

Black, nearly opaque, thorax occasionally pitchy; elytra with the posterior third deep red, the colour produced along

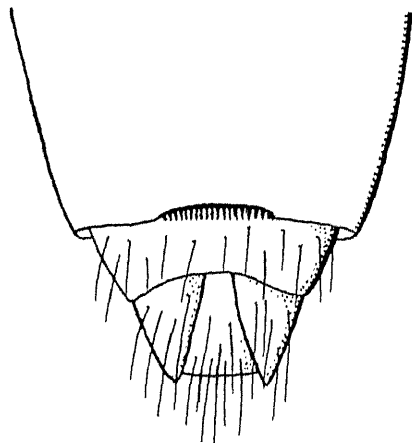


Fig. 56.—(*Charichirus chinensis*, apex of abdomen of ♂; ventral surface.

the suture almost to the scutellum; abdomen with the posterior margins of the segments very narrowly reddish. Antennæ reddish. Legs yellow. Length 6.5 mm.

Head transverse, subquadrate, a little broader than the thorax, the eyes a little shorter than the temples, the posterior

angles rounded, the base slightly emarginate, on the vertex with a short scarcely perceptible raised line, the whole surface very closely and finely granular. Antennæ with the 3rd to 8th joints longer than broad, gradually decreasing in length, the 9th and 10th almost as long as broad. Thorax slightly transverse, the sides straight, retracted behind, the angles rounded, along the middle with an extremely fine shining line, the sculpture similar to but rather less fine than that of the head. Elytra about a half longer and a little broader than the thorax, densely but more finely granular, very finely pubescent. Abdomen closely, finely, rather roughly punctured, finely pubescent.

♂: 6th ventral segment with shallow arcuate emargination; 5th abruptly, rather broadly emarginate, the emargination furnished with black closely placed spines.

Widely distributed throughout India and Ceylon. Widely distributed in the East as far as Japan.

740. *Charichirus ceylonicus*.

Medon (Charichirus) ceylonicus Cam., E. M. M. iv, 1919, p. 228.

Black, slightly shining; the elytra brown, the posterior and reflexed lateral margins and legs reddish-testaceous; antennæ reddish. Length 5.5 mm.

Exactly of the same size and build as *C. chinensis* Boh., but differing in the following respects: the antennæ are a little stouter, the penultimate joints being as long as broad; the fore-parts are distinctly more shining and the sculpture coarser; the smooth median line of the thorax is much broader, and the elytra are otherwise coloured. Head subquadrate, a little broader than the thorax; the eyes moderately large, their diameter less than the length of the temples, which are rounded posteriorly; puncturation close, obscurely umbilicate, and rugose. Antennæ with the 2nd joint shorter than the 3rd, the 3rd to the 6th longer than broad, gradually decreasing in length, 7th scarcely longer than broad, 8th to 10th as long as broad. Thorax scarcely shorter than broad, a little narrowed behind, disc with distinct median smooth elevated line throughout; sculpture consisting of close granules, each with a minute central pit. Elytra a little broader and about one-third longer than the thorax; brown, the lateral reflexed and posterior borders indeterminately rufo-testaceous; sculpture very similar to that of the thorax. Abdomen with the posterior margins of the segments narrowly reddish-testaceous, very closely and finely punctured, closely and finely pubescent throughout.

♂: unknown.

Ceylon: Kandy (*G. Lewis*).

Genus SCOPEUS Er.

- Scopæus* Er., Gen. Spec. Staph. 1839-40, p. 604; Lacord., Gen. Col. vii, 1854, p. 5; Kr., Naturg. Ins. Deutsch. ii, 1856-58, p. 701; Jacq. du Val, Gen. Col. d'Eur. ii, 1857-59, p. 46; Thoms., Skand. Col. ii, 1860, p. 207; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 307; Muls. et Rey, Ann. Soc. Linn. Lyon, xxiv, 1877, p. 179; Sharp, Trans. Ent. Soc. Lond. 1876, p. 248; B. C.-A. i, 2, 1882-87 (1886), pp. 540, 795; Lynch, Bol. Ac. Cord. vii, 1884, p. 245; Ganglb., Käf. Mitt. Eur. ii, 1895, p. 526; Casey, Trans. Ac. St. Louis, xv, 1905, pp. 191, 203.
- Leptorus* Cas., Bull. Calif. Ac. ii, 1886, pp. 217, 220.
- Polyodontus* Solier in Gay, Hist. Chile, Zool. iv, 1849, p. 310; Muls. et Rey, Ann. Soc. Linn. Lyon, xxiv, 1877, p. 194.
- Scoponæus* Motsch., Bull. Mosc. xxxi, 1858, ii, p. 641.
- Subgen. *Leucorus* Casey, Trans. Ac. St. Louis, xv, 1905, pp. 191, 192.
- Subgen. *Orus* Casey, Cont. Col. N. Amer. 1884, p. 604; id., Bull. Calif. Acad. i, 1884-86, p. 315, ii, 1886, pp. 36, 226; id., Trans. Ac. St. Louis, xv, 1905, pp. 191, 196; Sharp, B. C.-A. i, 2, 1882-87 (1886), p. 549.
- Subgen. *Pycnorus* Cas., Trans. Ac. St. Louis, xv, 1905, p. 194.
- Subgen. *Scopæodera* Cas., Bull. Calif. Ac. ii, 1886, pp. 217, 220; id., Trans. Ac. St. Louis, xv, 1905, pp. 192, 217.
- Subgen. *Scopæopsis* Cas., Trans. Ac. St. Louis, xv, 1905, pp. 191, 214.
- Subgen. *Scopæoma* Cas. Trans. Ac. St. Louis, xv, 1905, pp. 191, 211.

For the most part small or very small species with very slender neck and more or less oval thorax, the middle and posterior tibiæ obliquely truncate at the apex externally. Head quadrate or oval oblong, the gular sutures distinct, parallel and extending to the base of the head. Labrum transverse, quadridentate, the two median teeth larger and separated from each other by a rather deep subtriangular excision and from the outer by a shallower rounded one. Mandibles rather slender, curved, pointed, the right with two sharp teeth and a small bicuspid one behind, the cusps pointed; left with a sharp tooth and a small bicuspid similar to that of the right. Maxillary palpi 4-jointed, the 1st joint very small, the 2nd elongate, curved, a little widened towards the apex, 3rd about as long as the 2nd, much dilated towards the apex, 4th minute, subulate, scarcely visible. Lobes of the maxilla small, densely ciliate internally. Mentum trapezoidal. Tongue consisting of three nearly equal chitinous teeth, the lateral ones slightly curved inwards. Paraglossæ extending beyond the tongue, ciliate. Labial palpi 3-jointed, the 1st joint very small, the 2nd stout, oval, the 3rd very small, subulate. Prosternum well developed, its process carinate. Epimera small, triangular, separated from the broad pronotal epipleura by a suture. Mesosternum narrowed in front into a "neck," in the middle with round impression, its process very short, acute, free. Metasternum without anterior process, behind pointed between the posterior coxæ. Abdomen keeled below at the base. Tibiæ ciliate, the intermediate and posterior obliquely truncate externally at the

apex. Tarsi 5-jointed; the anterior with the first four joints short and subequal, the middle and posterior with the 1st joint a little longer than the 2nd, 2nd, 3rd, and 4th gradually shorter.

The genus is found throughout the world in damp places, many in the shingle of running streams.

Key to the Species.*

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|--|-------------------------------------|
| 1. Head subquadrate, the posterior angles briefly rounded, sometimes a little widened behind | 2. |
| Head suborbicular, the posterior angles broadly rounded, never widened behind. | 18. |
| 2. Legs dark; black species | <i>obscuripes</i> , sp. n., p. 173. |
| Legs entirely yellow, or reddish-yellow . | 3. |
| 3. Larger (5 mm.), more robust species, dull, closely pubescent, subsericeous, in greater part of dark colour..... | 4. |
| Smaller (under 5 mm.) | 6. |
| 4. Head as long as broad..... | 5. |
| Head longer than broad | <i>puberulus</i> Kr., p. 172. |
| 5. Head and thorax reddish-brown, the former with truncate base; puncturation of thorax fine and close, not granular | <i>procerus</i> Kr., p. 171. |
| Head black, thorax brown, the former with emarginate base; puncturation fine, close, and rough, appearing granular | <i>andrewesi</i> , sp. n., p. 172. |
| 6. Extremely finely and densely punctured and pubescent; yellow, only the abdomen pale brown. Length 2 mm. | <i>pallidulus</i> Kr., p. 180. |
| Much less finely punctured and differently coloured | 7. |
| 7. Fore-parts very shining; extremely sparingly punctured | <i>nitidulus</i> Motsch., p. 174. |
| Fore-parts less shining; much more closely punctured | 8. |
| 8. Larger (4 mm.); sculpture of head and thorax finely granular | <i>testaceus</i> Motsch., p. 173. |
| Smaller; sculpture not granular | 9. |
| 9. Minute species (2 mm. or less) | 10. |
| Larger species | 11. |
| 10. Head below deeply, not closely punctured; elytra longer | <i>puncticeps</i> Kr., p. 182. |
| Head below finely and closely punctured; elytra shorter | <i>micrus</i> Kr., p. 183. |
| 11. Head and thorax concolorous, red or yellowish-red | 12. |
| Head and thorax not concolorous; very rarely concolorous in <i>limbatus</i> | 17. |
| 12. Elytra uniformly reddish-yellow | <i>fulvus</i> , sp. n., p. 179. |
| Elytra otherwise | 13. |
| 13. Elytra reddish or reddish-yellow, with more or less distinct dark transverse fascia behind, not reaching the suture.. | 14. |
| Elytra otherwise | 15. |

* The following species of Motschoulsky, unknown to me, are not included in the Key: *fuscus*, *fulvescens*, and *thoracicus*.

14. Larger (3 mm.) and more robust; head not widened behind. *nitiduloides*, sp. n., p. 175.
 Smaller (2·5 mm.) and narrower; head slightly widened behind *germannus*, sp. n., p. 179.
15. Elytra reddish, infusate towards the postero-external angles. *rufulus* Kr., p. 177.
 Elytra reddish, more or less extensively infusate on the disc 16.
16. Larger (3 mm.) and more robust; head square *dilutus* Motsch., p. 176.
 Smaller (2 mm.) and narrower; head oblong *planiusculus* Kr., p. 181.
17. Rather shining; less closely punctured and pubescent *limbatus* Kr., p. 177.
 Subopaque; very closely and finely punctured and pubescent. *velutinus* Motsch., p. 178.
18. Elytra dark, the posterior margin lighter 19.
 Elytra reddish-yellow, obscurely infusate about the scutellum *humilis*, sp. n., p. 186.
19. Antennæ with the 3rd to 6th joints ringed with black before the apex, the penultimate joints much longer than broad *orbiceps*, sp. n., p. 183.
 Antennæ entirely reddish-yellow 20.
20. Elytra asperate 21.
 Elytra not asperate *lucidus*, sp. n., p. 185.
21. Head ferruginous-rod, thorax bright yellowish-red *beesoni*, sp. n., p. 185.
 Head and thorax dark brown 22.
22. Larger (4 mm.) and more robust *monticola*, sp. n., p. 184.
 Smaller (3·75 mm.) and narrower. *bicuspis* Kr., p. 185.

741. *Scopæus procerus*.

Scopæus procerus Kr.*, Arch. Naturg. xxv, 1859, i, p. 127.

Greasy-lustrous, brown, the elytra often lighter, closely and finely pubescent throughout. Antennæ red. Legs reddish-testaceous. Length 5 mm.

A robust species. Head as long as broad, quadrate, a little broader than the thorax, the temples parallel, the base truncate, very closely and finely punctured. Antennæ with the 3rd joint distinctly longer than the 2nd, 4th to 7th longer than broad, gradually decreasing in length, 8th to 10th about as long as broad. Thorax a little longer than broad, a little narrowed behind, the anterior angles broadly rounded, occasionally with a short fine sulcus at the middle of the base, the puncturation as on the head. Elytra a little longer and broader than the thorax, as closely but a little more finely punctured. Abdomen extremely finely and closely punctured and pubescent throughout.

♂: 6th ventral segment deeply and broadly excised; 2nd impressed in the middle, the margins of the impression subcarinate.

"Ind. or." Also in Singapore, Java, etc.

742. *Scopæus andrewesi*, sp. n.

Near *S. procerus*, of similar build, size, and lustre, but darker in colour, the head and thorax black, the elytra and abdomen pitchy-brown, the head distinctly emarginate at the base, the puncturation less fine, the thorax much less finely punctured, rough and appearing granular, the elytra more asperately punctured.

♂: unknown.

Nilgiri Hills.

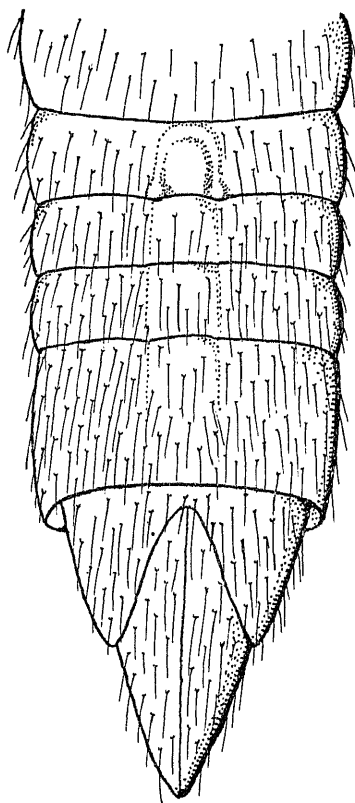


Fig. 57.—*Scopæus puberulus*, abdomen of ♂;
ventral surface.

743. *Scopæus puberulus*. (Fig. 57.)

Scopæus puberulus Kr., Arch. Naturg. xxv, 1859, i, p. 128.

Very near *S. procerus*, and only differs in the following respects: the build is narrower, the head narrower, a little

longer than broad, thorax narrower, the antennæ a little longer, the penultimate joints a little longer than broad, sculpture of elytra rather less fine. Length 5 mm.

♂: ventral segment broadly, deeply, subtriangularly excised.

Dehra Dun; Siwaliks; Nilgiri Hills. Also in the Malay Peninsula.

744. *Scopæus testaceus*.

Scopæus testaceus Motsch., Bull. Mosc. xxxi, 1858, ii, p. 642.

Scopæus rubrotestaceus Kr., Arch. Naturg. xxv, 1859, i, p. 128 (♂).

Scopæus semifuscus Kr., Arch. Naturg. xxv, 1859, i, p. 128 (♀).

Greasy-lustrous; the head and thorax brownish-red, elytra yellowish-red, abdomen yellowish-brown. The whole insect finely and closely pubescent. Antennæ reddish. Legs testaceous. Length 4 mm.

Smaller and narrower than *S. puberulus*, of brighter colour, the antennæ shorter, the sculpture of the head and thorax granular. Head a little longer than broad, subquadrate, the base emarginate, with fine, close, granular sculpture. Antennæ rather short, the 4th to 7th joints a little longer than broad, gradually decreasing in length, 8th to 10th about as long as broad. Thorax oval, along the middle with a fine more shining line, abbreviated in front and behind, the sculpture as on the head. Elytra a little longer and broader than the thorax, closely, finely, asperately punctured. Abdomen very finely and closely punctured and pubescent.

♂: 6th ventral segment broadly and deeply excised (*teste* Kraatz).

Ceylon: Colombo; Kanthaley; Anuradhapura. India: Belgaum; Dehra Dun. Also in Singapore and New Guinea.

745. *Scopæus obscuripes*, sp. n. (Fig. 58.)

Black; head and thorax shining, elytra and abdomen more opaque, the former scarcely perceptibly reddish at the posterior margin. Antennæ reddish. Legs pitchy, tarsi testaceous. Length 3.75 mm.

At once recognized by the dark legs, black colour, and the head slightly widened behind. Head as long as broad, a little wider than the thorax, slightly widened backwards to the rounded posterior angles, the base truncate, finely and closely punctured, the front and along the middle less punctured. Antennæ with the 3rd joint longer than the 2nd, 4th and 5th slightly longer than broad, 7th to 10th a little transverse. Thorax a little narrowed behind, the anterior angles broadly rounded, before the middle of the base with a fine short sulcus, the puncturation finer, but about as close as that of the head.

Elytra as long as the thorax, rather closely, less finely punctured than the fore-parts, more pubescent. Abdomen very finely and closely punctured and pubescent throughout.

♂: 6th ventral segment emarginate, elevated along the middle and longitudinally impressed on each side; 5th broadly and feebly emarginate and with two large, round, deep impressions on either side near the base.

Simla Hills: Fagu. Chakrata district: Jadi Gad, alt. 7000 to 8000 feet.

Fig. 58.

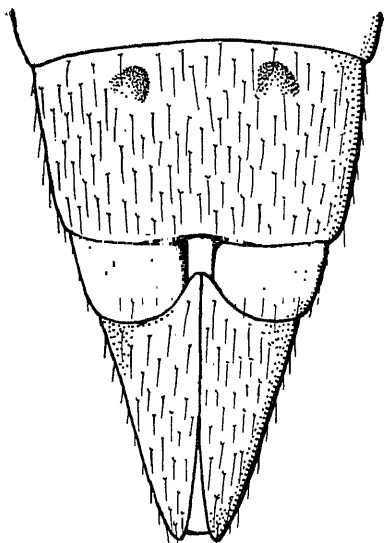


Fig. 59.

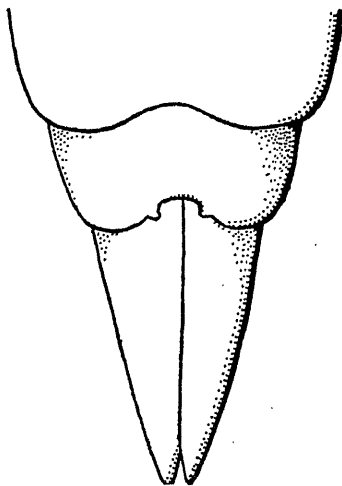


Fig. 58.—*Scopæus obscuripes*, apex of abdomen of ♂; ventral surface.

Fig. 59.—*Scopæus nitidulus*, apex of abdomen of ♂; ventral surface.

746. *Scopæus nitidulus*. (Fig. 59.)

Scopæus nitidulus Motsch., Bull. Mosc. xxxi, 1858, ii, p. 643.

Scopæus subfasciatus Kr.*, Arch. Naturg. xxv, 1859, i, p. 129;
Fauv., Mitt. Mus. Hamb. xxii, 1905, p. 82.

Shining; head and thorax red, elytra yellowish-red, with more or less broad transverse pitchy-brown fascia extending from the epipleura almost to the suture; abdomen less shining, brown. Antennæ and legs reddish-yellow. Length 3 mm.

Very distinct by the colour and the very shining and very sparingly punctured fore-parts. Head quadrate, broader than the thorax, very finely and very sparingly punctured, the punctures with long stiff hairs. Antennæ with the 3rd to 7th joints

longer than broad, gradually decreasing in length, the 8th as long as broad, the 9th and 10th slightly transverse. Thorax longer than broad, oval, at the base in the middle keeled and with a little impression on each side, the sculpture and pubescence as on the head. Elytra a little longer and broader than the thorax, with a few fine scattered setiferous punctures. Abdomen very finely, rather sparingly punctured and pubescent.

♂: 6th ventral segment with a small, almost semicircular excision; 5th broadly, slightly emarginate; 2nd and 3rd with slight transverse impression before the posterior margin.

Ceylon. Also in the Malay Peninsula, Sumatra, and Philip-pines.

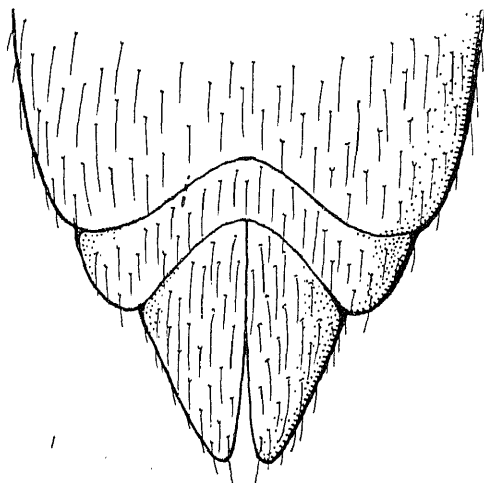


Fig. 60. — *Scopæus nitiduloides*, apex of abdomen of ♂;
ventral surface.

747. *Scopæus nitiduloides*, sp. n. (Fig. 60.)

Very near *S. nitidulus*, of the same size, build, colour, and lustre, but the elytral fascia narrower, the head closely and finely punctured towards the front, thorax extremely finely but much less sparingly punctured than in *nitidulus*, the elytra finely and closely punctured, the head, thorax, and elytra quite devoid of the long fine hairs seen in *nitidulus*, but with a fine short pubescence instead.

♂: 6th ventral segment broadly, rather deeply subobtusely emarginate; 5th broadly and less deeply emarginate; 2nd and 3rd distinctly transversely impressed in the middle before the posterior margin.

Bihar: Pusa. Dehra Dun. Mussoorie. Andaman Islands: Port Blair.

748. *Scopæus dilutus*. (Fig. 61.) (Plate II. fig. 4.)*Scopæus dilutus* Motsch., Bull. Mosc. xxxi, 1858, ii, p. 642.*Scopæus suturalis* Kr.*, Arch. Naturg. xxv, 1859, i, p. 130.

A little shining; the head and thorax red, the former occasionally infuscate at the sides and on the vertex; elytra usually infuscate, the base, suture, and apical margins narrowly and indeterminately reddish, occasionally entirely reddish; abdomen brown. Antennæ reddish-yellow. Legs yellow. Length 3 mm.

Head quadrate, broader than the thorax, the posterior angles briefly rounded, the base truncate, very finely and

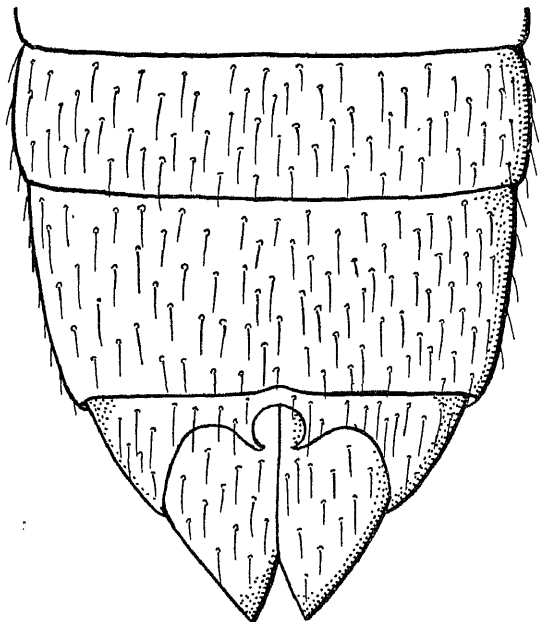


Fig. 61.—*Scopæus dilutus*, apex of abdomen of ♂;
ventral surface.

closely punctured. Antennæ with 3rd joint as long as the 2nd, 4th to 6th a little longer than broad, the 7th to 10th about as long as broad. Thorax a little longer than broad, narrower behind, the anterior angles obtusely rounded, at the middle of the base with a small keel, on each side with a little fovea, the puncturation as close as but finer than that of the head. Elytra a little longer and broader than the thorax, closely, finely asperately punctured. Abdomen extremely finely and closely punctured and pubescent, subsericeous.

♂: 6th ventral segment with almost circular emargination, on each side with a tooth, the apex curved inwards, external to the teeth more broadly emarginate; 5th with an obtuse, shallow emargination; 2nd and 3rd with transverse line near the posterior margin.

Ceylon. India: Mahé. Burma. Also in the Malay Peninsula, Penang, Sumatra, Java, Philippines, Hong Kong, and New Guinea.

749. *Scopæus rufulus*.

Lithocharis rufula Kr.*, Arch. Naturg. xxv, 1859, i, p. 140.

Head and thorax scarcely shining, red; elytra reddish-testaceous, the postero-external angles finely punctate; abdomen brown, the margins of the segments finely punctate. Antennæ and legs testaceous. Length 3 mm.

Somewhat resembling *S. dilutus* Motsch., but much more strongly punctured and the head emarginate at the base. Head subquadrate, a little broader than the thorax, the eyes small, the temples very slightly rounded, the posterior angles rounded, the base emarginate, moderately finely, closely punctured. Antennæ with 2nd and 3rd joints equal in length, 7th to 10th slightly transverse. Thorax a little longer than broad, a little narrowed behind, obliquely truncate in front, without sulcus or impunctate line in the middle, closely but more finely punctured than the head. Elytra a little longer and broader than the thorax, closely, finely, asperately punctured. Abdomen very finely and moderately closely punctured and pubescent.

♂: 6th ventral segment triangularly excised; 5th slightly emarginate.

"Ind. or."

750. *Scopæus limbatus*. (Fig. 62.)

Scopæus limbatus Kr.*, Arch. Naturg. xxv, i, 1859, p. 130.

Head and thorax shining, elytra and abdomen less shining; the head black (sometimes brown or red), thorax red; elytra black, the posterior margin narrowly reddish-testaceous; abdomen brown. Antennæ reddish-yellow. Legs yellow. Length 3 mm.

Head quadrate, broader than the thorax, the posterior angles rounded, the base truncate, extremely finely and closely punctured. Antennæ with the 3rd joint a little shorter than the 2nd, 4th to 6th a little longer than broad, gradually decreasing in length, 7th as long as broad, 8th to 10th slightly transverse. Thorax a little narrowed behind, longer than broad, the anterior angles rounded, the base in the middle with a very short keel, the puncturation as on the head. Elytra a little longer and broader than the thorax, as closely

but much less finely punctured. Abdomen very finely and closely punctured and pubescent.

♂: 6th ventral segment broadly, slightly, arcuately emarginate; 2nd and 3rd before the middle of the posterior margin with transverse impressed line.

Ceylon: Trincomalee; Kanthaley; Anuradhapura. India: S. Mysore; Pusa; Dehra Dun; Siwaliks; Mussoorie. Also in the Malay Peninsula, Singapore, Penang, etc.

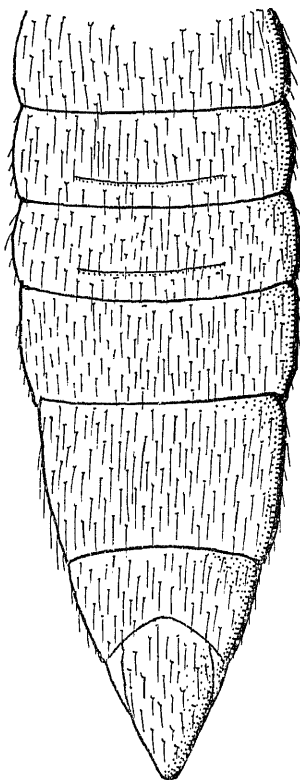


Fig. 62.—*Scopæus limbatus*, abdomen of ♂;
ventral surface.

751. *Scopæus velutinus*.

Scopæus velutinus Motsch., Bull. Mosc. xxxi, 1858, ii, p. 642.

Scopæus decipiens Kr.*, Arch. Naturg. xxv, 1859, i, p. 131.

Very near *S. limbatus*, but smaller (2.8 mm.), more depressed, less shining (greasy-lustrous), the head and thorax more deeply punctured, the former narrower.

♂: 6th ventral segment emarginate; 5th broadly and rather deeply excised, at each side of the excision with a little tooth.

Ceylon: Weligama. S. India: Nagargali; Belgaum. Dehra Dun. Burma. Also in Indo-China and Borneo.

752. *Scopæus fulvus*, sp. n.

Head and thorax shining, elytra and abdomen less shining. Head red, thorax yellowish-red, elytra yellow or infusate, with the posterior region broadly and indeterminately yellow; abdomen brownish-yellow. Antennæ and legs yellow. Length 3 mm.

Size of *S. limbatus* and in the forms with infusate elytra somewhat similar, but at once distinguishable by the narrower head and thorax, the latter less closely punctured and the much finer puncturation of the elytra. Head a little longer than broad, broader than the thorax, not widened behind, the base truncate, the posterior angles broadly rounded, extremely finely and closely punctured, finely pubescent. Antennæ with the 3rd joint as long as the 2nd, 4th and 5th a little longer than broad, 6th as long as broad, 7th to 10th a little transverse. Thorax a little longer than broad, a little narrowed behind, the anterior angles obtusely rounded, bi-impressed before the base and with short median keel, extremely finely but less closely punctured than the head. Elytra scarcely longer than the thorax, extremely finely and closely punctured, finely pubescent. Abdomen extremely finely and closely punctured and pubescent.

♂: unknown.

Dehra Dun.

753. *Scopæus germanus*, sp. n. (Fig. 63.)

Shining reddish-yellow, the abdomen less shining and a little darker, the elytra with variable indeterminate and obscure infusate fascia posteriorly, not interrupted at the suture. Antennæ and legs yellow. Length 2.5 mm.

More yellow in colour than *S. puncticeps*, much larger and with longer head. Head a little longer than broad, very slightly widened behind, the base very slightly emarginate, scarcely broader than the thorax, closely, extremely finely punctured behind, less finely in front. Antennæ with the 3rd joint as long as the 2nd, 4th to 6th a little longer than broad, gradually decreasing in length, 7th to 10th a little transverse. Thorax longer than broad, a little narrowed behind, the anterior angles obtusely rounded, along the middle with a narrow smooth space, the rest extremely finely but not very closely punctured, finely pubescent. Elytra a little longer than the

thorax, less finely and more closely punctured. Abdomen extremely finely and closely punctured and pubescent.

♂: 6th ventral segment with very small acute triangular excision; 5th scarcely emarginate; 4th with a small tubercle at the middle of the posterior margin.

Dehra Dun: River Song; Mothronwalla. Siwaliks: Mohan Rau; Kheri Rau. Mussoorie: Kolhu Khet Gad.

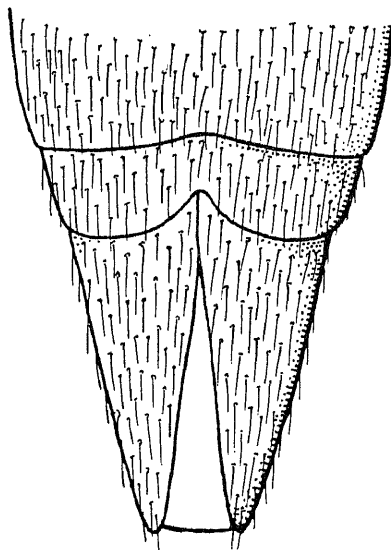


Fig. 63.—*Scopæus germanus*, apex of abdomen of ♂; ventral surface.

754. *Scopæus pallidulus*. (Fig. 64.)

Scopæus pallidulus Kr.*, Arch. Naturg. xxv, 1859, i, p. 131.

Fore-parts a little shining; head, thorax, and elytra yellow, abdomen brown, the apex lighter; very finely and closely yellow pubescent throughout. Antennæ and legs yellow. Length 2 mm.

A small subdepressed species. Head a little longer than broad, oblong, broader than the thorax, the base truncate, the posterior angles briefly rounded, extremely finely and closely punctured, finely pubescent. Antennæ moderate, the 3rd joint a little shorter than the 2nd, 4th and 5th a little longer than broad, 6th as long as broad, 7th to 10th slightly transverse. Thorax longer than broad, slightly narrowed behind, obliquely truncate in front, along the middle with an extremely fine shining line, the sculpture as on the head.

Elytra a little longer and broader than the thorax, extremely finely, closely punctured and pubescent. Abdomen extremely finely and closely punctured and pubescent throughout.

♂: 6th ventral segment with small triangular excision, the margins rather broadly bevelled (not shown in the figure).
Ceylon. India: Dehra Dun. Also in Singapore.

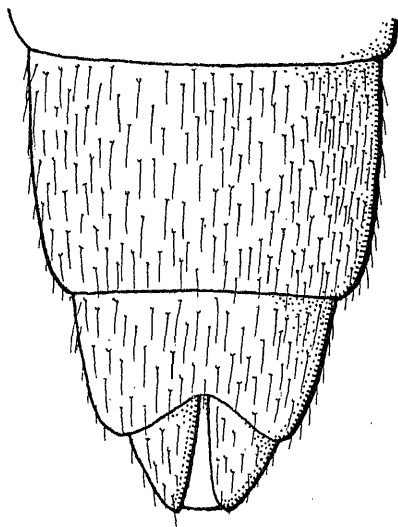


Fig. 64.—*Scopæus pallidulus*, apex of abdomen of ♂;
ventral surface.

755. *Scopæus planiusculus*. (Fig. 65.)

Scopæus planiusculus Kr.*, Arch. Naturg. xxv, 1859,¹ p. 132.

Narrow, subdepressed, greasy-lustrous, red, the elytra more or less extensively infusate, the abdomen brown, the apex reddish-yellow. Antennæ and legs reddish-yellow. Length 2.2 mm.

Head oblong, a little broader than the thorax, the posterior angles rounded, the base truncate, extremely finely and closely punctured and pubescent. Antennæ with the 3rd joint about as long as the 2nd, 4th and 5th a little longer than broad, 7th to 10th slightly transverse. Thorax longer than broad, a little narrowed behind, the anterior angles rather broadly rounded, in the middle of the posterior half with extremely fine shining line, the rest of the surface with similar puncturation and pubescence to the head. Elytra a little longer and broader than the thorax, closely but much less finely punctured. Abdomen extremely finely and closely punctured and pubescent throughout.

♂ : 6th ventral segment with very narrow, acutely triangular excision; 5th with a broad, shallow impression extending nearly to the base of the segment; 2nd to 4th each with a transverse impressed line in front of the posterior margin.

"Ind. or." Also in Java and Indo-China.

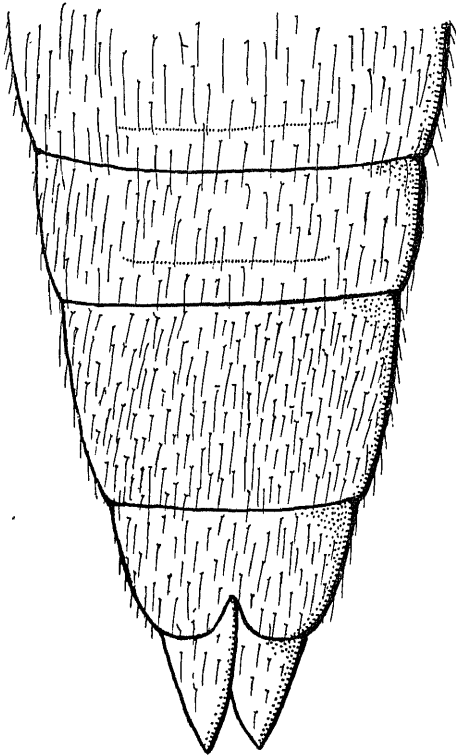


Fig. 65.—*Scopæus planiusculus*, abdomen of ♂ : ventral surface.

756. *Scopæus puncticeps*.

Scopæus puncticeps Kr.*, Arch. Naturg. 1859, i, p. 132.

Head, thorax, and elytra yellowish-red, shining, the abdomen less shining, brown, the elytra with rather broad, transverse, indeterminate brown fascia reaching the suture. Antennæ and legs yellow. Length 1·8 mm.

Head as long as broad, broader than the thorax, a little widened behind, the base emarginate, very finely, rather closely punctured and pubescent above, moderately closely and rather coarsely punctured below. Antennæ short, the 3rd joint shorter than the 2nd, 7th to 10th distinctly transverse. Thorax

longer than broad, a little narrowed behind, the anterior angles obtuse, before the base in the middle with a fine raised line on each side with a small impression, the puncturation rather close, less fine than that of the head. Elytra as long as the thorax, very similarly punctured. Abdomen extremely finely, closely punctured and pubescent.

The specimens I have examined present no secondary sexual characters.

"Ind. or." Also in Singapore and the Malay Peninsula.

757. *Scopæus micrus*.

Scopæus micrus Kr.*, Arch. Naturg. xxv, 1859, i, p. 132.

Closely allied to *S. puncticeps*, but a little smaller (1.6 mm.), the elytra a little longer, more or less extensively infuscate and more distinctly punctured, the abdomen red, the under surface of the head closely and finely punctured.

Ceylon : Trincomalee.

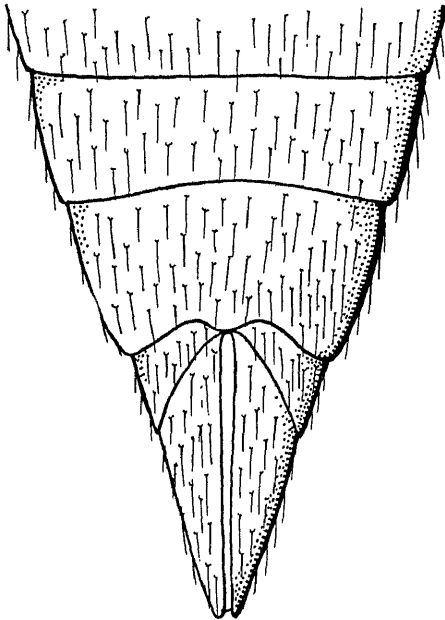


Fig. 66.—*Scopæus orbiceps*, apex of abdomen of ♂ ; ventral surface.

758. *Scopæus orbiceps*, sp. n. (Fig. 66.)

Head and thorax shining, black ; elytra and abdomen less shining, the former black with the posterior margin narrowly yellow, the latter brown with the posterior margins

of the segments lighter. Antennæ elongate, reddish-yellow, the apex of the 3rd to 6th joints black. Legs yellow. Length 5 mm.

Head a little longer than broad, suborbicular, the temples rounded and retracted to the neck, broader than the thorax, very finely and very closely punctured, finely pubescent. Antennæ elongate, all the joints much longer than broad, gradually decreasing in length, the 11th as long as the 10th. Thorax oval, the anterior angles scarcely indicated, at the middle of the base with a little keel, on each side with a fovea, closely, more finely punctured than the head. Elytra a little longer and broader than the thorax, very finely, closely, obsoletely punctured. Abdomen very finely and closely punctured and pubescent throughout.

♂: 6th ventral segment with the posterior margins obtusely produced in the middle; 5th broadly, feebly, arcuately emarginate; 2nd and 3rd with fine transverse impressed line near the posterior margin.

Siwaliks: Mohan Rau; Kheri Rau.

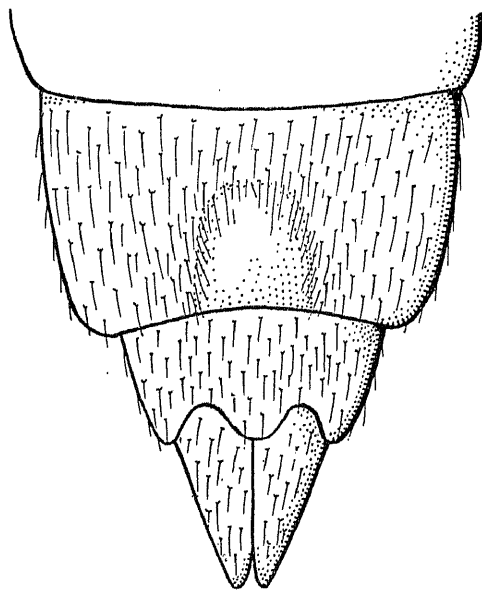


Fig. 67.—*Scopæus monticola*, apex of abdomen of ♂; ventral surface.

759. *Scopæus monticola*, sp. n. (Fig. 67.)

Scarcely differing from *S. orbiceps* in colour, build, or lustre, but at once distinguished by the smaller size (4 mm.), shorter,

unicolorous reddish-testaceous antennæ, the penultimate joints only a little longer than broad, the much less fine puncturation of the fore-parts, that of the elytra being distinctly asperate.

♂: 6th ventral segment produced in the middle, the apex of the projection rounded; 5th impressed along the middle almost to the base.

Mussoorie and Chakrata districts, alt. 5000 to 6500 feet.

760. *Scopæus lucidus*, sp. n.

Size, build, colour, and antennal structure of *S. monticola*, but the fore-parts more shining and much more finely punctured, the puncturation of the elytra not asperate.

♂: unknown.

Dehra Dun: Nun Nadi.

761. *Scopæus bicuspis*.

Scopæus bicuspis Kr.*, Arch. Naturg. xxv, 1859, i, p. 129.

Rather shining, reddish-brown, the posterior margin of the elytra paler, the abdomen lighter. Antennæ and legs reddish-yellow. Length 3.75 mm.

Head suborbicular, the post-ocular region gradually narrowed and rounded to the broadly rounded posterior angles, very finely, closely punctured, finely pubescent. Antennæ moderate, the 2nd and 3rd joints subequal, 4th to 10th all longer than broad, decreasing in length, the 10th only slightly longer than broad. Thorax oval, before the base with short median keel and a little fovea on each side, along the middle with a very fine more shining line, the puncturation as on the head. Elytra a little longer and broader than the thorax, less finely and more roughly punctured. Abdomen extremely finely and closely punctured and pubescent.

♂: 6th ventral segment on the posterior margin in the middle with two rather long parallel teeth separated by a rounded emargination, externally broadly, arcuately emarginate.

"Ind. or."

762. *Scopæus beesoni*, sp. n. (Fig. 68.)

Moderately shining, the head dark reddish-brown, thorax red, elytra blackish, the posterior margin narrowly reddish-testaceous, the base occasionally more or less reddish. Antennæ reddish-testaceous. Legs yellow. Length 4 mm.

In colour and lustre similar to *S. limbatus*, but differs in the larger size, narrower, longer head, narrower thorax, longer elytra, longer antennæ, the penultimate joints being a little longer than broad, and the male characters. The sculpture is very similar.

♂: 6th ventral segment a little produced backwards in the middle, the apex of the projection rounded; 5th with large superficial impressions reaching nearly to the base of the segment; 2nd and 3rd before the posterior margin with transverse impressed line as in *limbatus*.

Siwaliks: Kheri Rau; Mohan Rau; Malhan Range; Song River. Mussoorie and Chakrata districts up to 6500 feet.

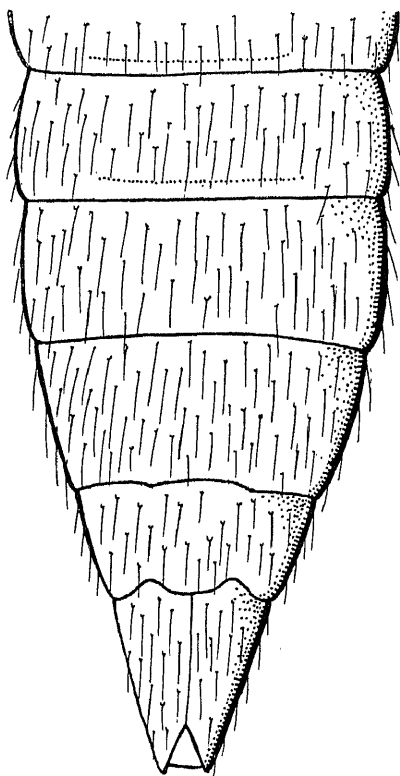


Fig. 68.—*Scopæus beesonii*, abdomen of ♂;
ventral surface.

763. *Scopæus humilis*, sp. n. (Fig. 69.)

Fore-parts shining; head and thorax reddish-yellow, elytra yellow, obscurely infuscate about the scutellum; abdomen brown, the apex lighter. Antennæ reddish-yellow. Legs yellow. Length 4 mm.

Resembling *S. beesonii* in build, but differently coloured and

with the penultimate joints of the antennæ longer. Head a little longer than broad, broader than the thorax, the temples slightly rounded and retracted to the rounded posterior angles, the base truncate, extremely finely and closely punctured, finely pubescent. Antennæ with the 3rd joint as long as the 2nd, the following all longer than broad, gradually decreasing in length, the penultimate a little longer than broad. Thorax oval, the anterior angles obsolete, at the base with a short median keel, foveate on each side, the puncturation and pubescence as on the head. Elytra a little longer and broader than the thorax, as closely but less finely, scarcely asperately punctured, finely and closely pubescent. Abdomen extremely finely and closely punctured and pubescent.

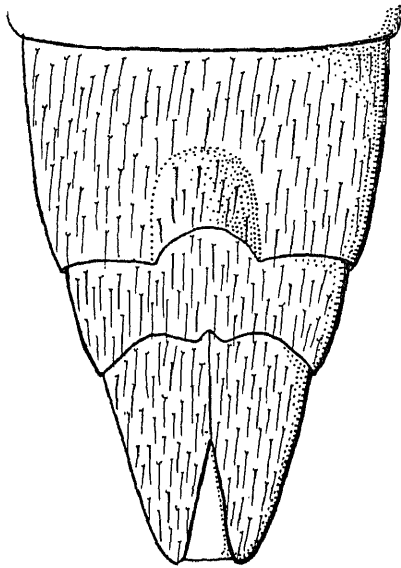


Fig. 69.—*Scopæus humilis*, apex of abdomen of ♂ ;
ventral surface.

♂: 6th ventral segment in the middle of the posterior margin with two little teeth, separated by a small arcuate emargination, externally more broadly, arcuately excised; 5th in the middle rather broadly arcuately emarginate, in front of the emargination with an impression extending half the length of the segment, its fundus with numerous short black hairs; 2nd and 3rd each with an impressed transverse line before the posterior margin.

Dehra Dun: Song River; Nim Nadi; Lachiwala. Mussoorie district: Arni Gad. Also in the Malay Peninsula.

764. *Scopæus fuscus*.

Scoponæus fuscus Motsch., Bull. Mosc. xxxi, 1858, ii, p. 641.

A little larger than *Lithocharis fuscus* and especially more elongate. Yellowish-brown, paler on the first abdominal segments; legs, palpi, base of the antennæ, and antennal tubercles paler. Puncturation very fine, the pubescence very short, thick, and greyish. Head a little arcuate behind and furnished on each side of the neck of the thorax with a little tooth; thorax with all the angles strongly rounded. Elytra as long as the thorax. Ligatures of the abdominal segments whitish, the 7th on each side above with a spine.

"Indes orientales" (ex *Motschoulsky*).

765. *Scopæus fulvescens*.

Scoponæus fulvescens Motsch., Bull. Mosc. xxxi, 1858, ii, p. 642.

A little smaller than *S. fuscus* and distinguished from it by its reddish-testaceous colour, the tarsi and the penultimate joints of the antennæ a little infusate. Lateral spines of the 7th abdominal segment short.

"Ind. or." (ex *Motschoulsky*).

766. *Scopæus thoracicus*.

Scoponæus thoracicus Motsch., Bull. Mosc. xxxi, 1858, ii, p. 641.

Very near *S. fuscus* in build and colours, but the head abruptly truncate behind and without little teeth. Thorax narrowed and emarginate towards the elytra, so that the anterior angles of the latter appear prominent; median line of the thorax slightly raised. Puncturation in general stronger, so that the head, thorax, and elytra are more opaque.

"Indes orientales" (ex *Motschoulsky*).

MEDOME, gen. n.

Facies of the European genus *Domene*. Differs in the structure of the labrum, tongue, and maxillary palpi; the labrum and tongue are similar to those of *Scopæus*, but it differs from this in the much thicker neck; the sculpture of the thorax consists of longitudinal striæ in the only species known to me, but this may be only a specific character. Gular sutures fused. Neck fully a fourth as wide as the base of the head. Labrum, maxillæ, mentum, tongue, and labial palpi as in *Scopæus*. Right mandible with one, the left with two sharp teeth. Sternal structure as in *Scopæus*. Anterior tarsi short, the first four joints short, subequal, a little dilated in both sexes; middle and posterior with the first two joints equal,

moderate, the 3rd and 4th shorter. Tibiæ not obliquely truncate. The only species lives near running streams in the hills.

767. *Medome bicolor*, sp. n. (Fig. 70.)

Subopaque, the head reddish-brown, thorax black (occasionally concolorous with the head); elytra pitchy, the base and posterior margin narrowly rufescent; abdomen black, more shining. Antennæ red. Legs reddish-yellow. Length 4 mm.

Head quadrate, broader than the thorax, the posterior

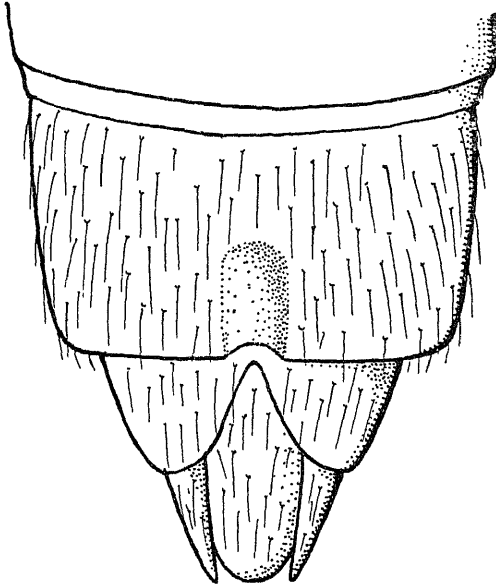


Fig. 70.—*Medome bicolor*, apex of abdomen of ♂ ;
ventral surface.

angles rather broadly rounded, the base truncate, the eyes small; closely covered with rather small umbilicate punctures, rough. Antennæ moderate, 2nd and 3rd joints subequal, 4th to 6th a little longer than broad, 7th as long as broad, 8th to 10th distinctly transverse. Thorax scarcely longer than broad, a little narrowed behind, all the angles rounded, obliquely truncate to the neck in front, the whole surface closely covered with longitudinal striæ and without trace of puncturation. Elytra a little longer and broader than the thorax, with close, moderately fine granular sculpture and fine, close, yellow pubescence. Abdomen very finely and closely punctured and pubescent throughout.

♂: 6th ventral segment with moderately deep, broad, acute triangular excision; 5th with narrow arcuate emargination with an impression in front, the impression shining and glabrous at the posterior margin, covered with short black hairs elsewhere.

Mussoorie district: Arni Gad. Chakrata district: Mohna, alt. 5000 to 6500 feet. Near the streams.

Genus **ENNALAGIUM** Bernh.

Ennalagium Bernhauer, W. Z. B. lxxv, 1915, p. 139.

In build between *Lathrobium* and *Domene*; differs from both in the bidentate labrum and the horny trifid tongue, in this respect approaching *Scopæus* and *Medome*. Neck stout, fully a fourth as broad as the base of the head; gular sutures narrowly separated, the gular plate between shining and impunctate. Labrum transverse, with two strong central teeth separated by a moderately broad and deep subtriangular excision, from the base of each tooth with a keel passing backwards to the base and almost parallel with its fellow. Mandibles slender, curved and pointed in the apical half, the right with a short sharp tooth and a broad feeble bicuspid behind, the left with a strong tooth with obliquely truncate apex, behind with a large bicuspid. Maxillæ with large inner and smaller outer lobe, both densely ciliate internally. Maxillary palpi 4-jointed, the 1st joint small, the 2nd elongate, curved, slightly thickened apically, 3rd longer and more dilated towards the apex, 4th minute, subulate, scarcely visible. Mentum transverse. Tongue corneous, divided into three short, equal, pointed lobes, the outer ones incurved apically. Paraglossæ well developed, extending considerably beyond the tongue, ciliate internally. Labial palpi 3-jointed, the 1st joint rather short, 2nd much longer and stouter, 3rd slender and pointed, quite half as long as the preceding. Thorax convex, trapezoidal. Prosternum well developed, its process strongly compressed laterally between the coxæ and reaching the level of the apex of the epimera, these rather large, triangular, separated by a suture from the pronotal epipleura. Mesosternum narrowed to a "neck" in front, on each side with large round impression, behind in the middle with larger impression, its sides sloping to a narrow fundus; mesosternal process very short, acute, free. Metasternum without anterior process, between the posterior coxæ with narrow bifid process. Abdomen keeled at the base below. Legs rather long. Tibiæ ciliate. Tarsi 5-jointed, the anterior short, dilated in both sexes; middle and posterior rather short, the first four joints short and subequal; the 4th joint simple.

The genus is so far only known from the Oriental Region. The species are found near water.

Key to the Species.

- | | | |
|--|----|------------------------------------|
| 1. Entirely black; legs pitchy; antennæ dark..... | 2. | |
| Head and thorax black, elytra and abdomen brown, the former infuscate behind; legs reddish-yellow; antennæ reddish | | <i>castaneipenne</i> Cam., p. 193. |
| 2. Thorax uniformly punctured..... | | <i>assamense</i> , sp. n., p. 192. |
| Thorax much more strongly punctured on the disc, much more finely towards the sides | | <i>indicum</i> Cam., p. 191. |

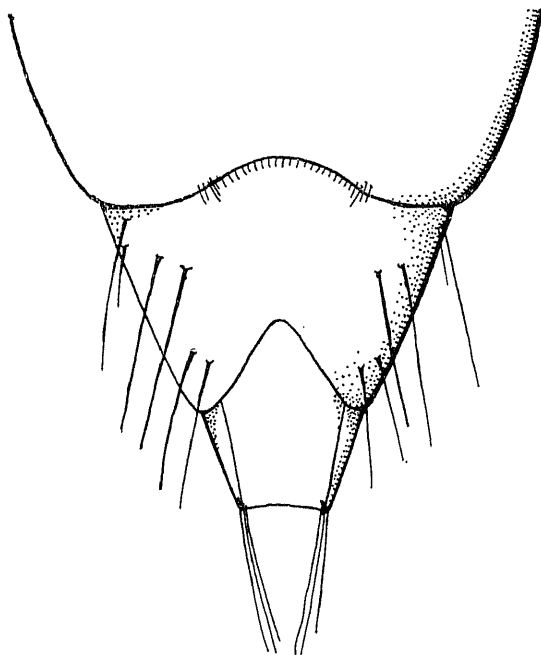


Fig. 71.—*Ennalagium indicum*, apex of abdomen of ♂; ventral surface.

768. *Ennalagium indicum*. (Fig. 71.)

Domene (Ennalagium) indicum Cam., Trans. Ent. Soc. Lond. 1924, p. 191.

Black, subopaque, head and thorax very finely and densely punctured; elytra yet more finely punctured; antennæ black, the last one or two joints obscure testaceous; legs reddish-brown; tibiæ darker. Length 6 mm.

Head orbicular, broader than the thorax, eyes moderate, rather prominent, the post-ocular area coarctate with the base, very finely and densely punctured throughout, finely setose and pubescent; antennæ moderate, the 3rd joint longer than 2nd, 4th to 6th equal, longer than broad, 7th to 10th subequal, oval, 11th as long as 10th. Thorax scarcely longer than broad, widest at the rounded anterior angles, obliquely truncate to the neck, the sides nearly straight and moderately narrowed behind, middle of disc with narrow, smooth, shining line throughout, otherwise densely and more finely punctured than the head, towards the sides much more finely. Elytra a little longer and wider than the thorax, rather more shining, much more finely and not so densely punctured as the thorax. Abdomen pitchy, opaque, exceedingly finely and closely punctured and finely pubescent throughout.

♂: 6th ventral segment semi-elliptically excised; 5th broadly emarginate, impressed in front of the emargination, along the edge of the emargination with numerous short, black, pointed spines, the external ones longer.

Mussoorie district: Kaligad.

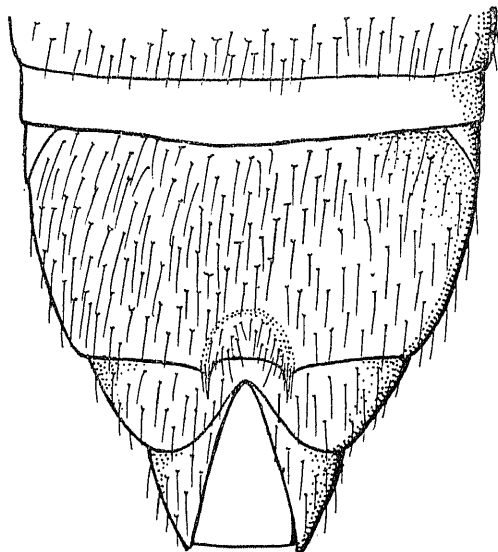


Fig. 72.—*Ennalagium assamense*, apex of abdomen of ♂; ventral surface.

769. *Ennalagium assamense*, sp. n. (Fig. 72.)

Larger (6.5 mm.) and more robust than *E. indicus*, the head a little broader than long, the temples parallel, the posterior angles more briefly rounded, the puncturation coarser, the

thorax uniformly punctured, as coarsely as on the disc of *indicum*, elytra much less finely and rather more closely punctured.

♂: 6th ventral segment semi-elliptically excised; 5th slightly emarginate in the middle, before the emargination impressed, the impression thickly covered with short black hairs.

Naga Hills; Laimatak.

770. *Ennalagium castaneipenne*. (Fig. 73.)

Domene (Ennalagium) castaneipenne Cam., Trans. Ent. Soc. Lond. 1924, p. 192.

Very similar to *indicum*, but differing in the following respects: the temples are more parallel, the posterior angles,

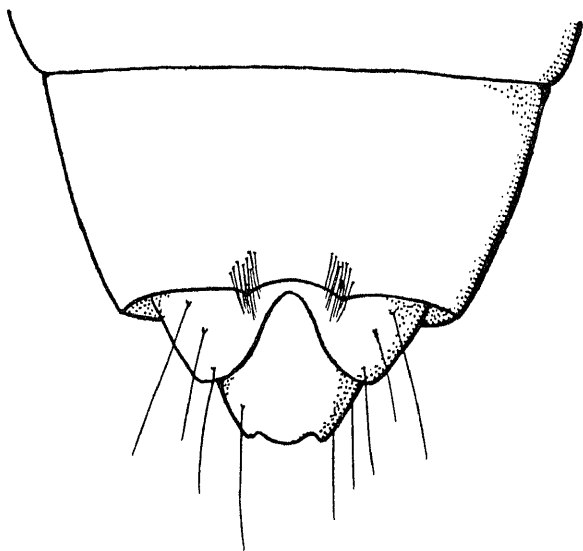


Fig. 73.—*Ennalagium castaneipenne*, apex of abdomen of ♂; ventral surface.

although broadly rounded, are scarcely coarctate with the base, the antennæ are ferruginous, the thorax pitchy-brown, uniformly punctured, the legs testaceous, the elytra castaneous, infusate behind and not quite so finely punctured, and the abdomen reddish-brown.

♂: 5th ventral segment with small crescentic emargination with parallel-sided impression in front of it, the sides of the impression bordered with black setæ; 6th ventral segment triangularly excised, the apex rounded.

Siwaliks: Mohan Rau; Malhan Range.

Genus **DOMENE** Fauv.

Domene Fauv., Faun. Gallo-Rhén. iii, 1872, p. 305, t. 4, f. 4; Muls. et Rey, Ann. Soc. Linn. Lyon, xxiv, 1877, p. 94; Ganglb., Käf. Mitt. Eur. ii, 1895, p. 517; Casey, Trans. Ac. St. Louis, xv, 1905, p. 69.

In the structure of the mouth-parts etc. similar to *Lathrobium*; differs from that genus in the narrow oval thorax and a facies approaching *Stiliculus* and *Scopæus* except in the broader neck. The femora are clavate. The anterior tarsi dilated in both sexes. The genus is found in Europe, Japan, and Australia.

Key to the Species.

1. Black, with distinct greenish or bluish-green reflex; legs entirely black *æneipennis* Cam., p. 194.
Black, without greenish reflex; legs black, the base of the femora yellow 2.
2. Larger (7 to 7.5 mm.) and more robust; head opaque, densely punctured; penultimate joints of antennæ distinctly longer than broad *femoralis*, sp. n., p. 195.
Smaller (5.5 mm.) and narrower; head shining, more finely and less closely punctured; penultimate joints of antennæ scarcely longer than broad *birmana*, sp. n., p. 196.

771. *Domene æneipennis*.

Domene æneipennis Cam., Trans. Ent. Soc. Lond. 1924, p. 191.

Head blue-black, nearly opaque; thorax shining blue-black; elytra green-bronze shining; antennæ, palpi, and legs black. Length 7.5 mm.

Head broader than the thorax, the eyes very large and prominent, the post-ocular area coarctate with the base, a small spot on the vertex and a transverse area between the antennæ shining blue-black, the rest of the surface nearly opaque, moderately finely and very closely, roughly punctured, the punctures umbilicate, setiferous; antennæ rather slender, the 3rd joint longer than the 2nd, 4th to 10th all longer than broad, narrower at the bases, gradually decreasing in length, 11th longer than 10th. Thorax a little longer than broad, oval, narrower at the anterior than the posterior border, shining, with a broad, median, impunctate space throughout, the rest of the surface with a double puncturation of moderately fine to moderately coarse points rather closely placed, setiferous and umbilicate. Elytra broader and a good deal longer than the thorax, shining bronze-green, coarsely, closely, seriatly punctured, the postero-external angles and epipleura irregularly and less coarsely punctured. Abdomen shining nigro-æneous, exceedingly finely and closely punctured and pubescent in front, more sparingly behind.

One female example.

Mussoorie district: Kaligad.

772. *Domene femoralis*, sp. n. (Fig. 74.)

Black, the head opaque, the rest shining. Antennæ with the 1st and last three joints blackish, the rest reddish with pitchy apices. Legs black, the femora for nearly the basal half, yellow. Length 7 to 7.5 mm.

Differs from *D. ceneipennis* in the colour, narrower head, and less punctured thorax. Head broader than the thorax, the eyes large and prominent, the temples retracted to the rounded posterior angles; the clypeus and space between the antennal tubercles smooth and shining, elevated behind into a little shining tubercle, behind it with trace of short smooth shining line, otherwise covered with a rather rough, small close, umbilicate puncturation. Antennæ as in *ceneipennis*. Thorax oval, broadly impunctate along the middle,

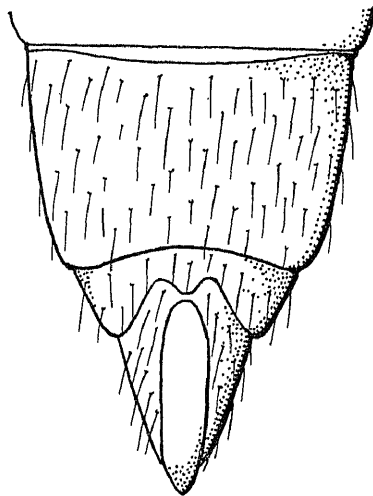


Fig. 74.—*Domene femoralis*, apex of abdomen of ♂; ventral surface.

with larger and (especially towards the sides) smaller scattered umbilicate punctures, the pubescence rather long and scanty. Elytra distinctly longer and broader than the thorax, with rows of coarse close punctures on the anterior two-thirds, behind less coarsely and more irregularly punctured. Abdomen with the anterior segments strongly transversely impressed at the base, very finely, not very closely punctured throughout, with long whitish pubescence.

♂: 6th ventral segment deeply and rather broadly emarginate, in the middle of the emargination with a triangular tooth.

Assam: Naga Hills, alt. 3000 to 9000 feet (S. N. Chatterjee).

773. *Domene birmana*, sp. n.

Differs from *D. femoralis* in the smaller size (5.5 mm.) and narrower build, the shining, less densely and more finely punctured head, shorter antennæ with the penultimate joints scarcely longer than broad, the thorax with rather coarse puncturation at the sides, the elytral puncturation less coarse and more definitely seriate, the femora more extensively pale testaceous, the apex of the posterior tibiæ more or less testaceous.

Burma: Tavoy (*R. N. Parker*).

Genus **LATHROBIUM** Grav.

Lathrobium Grav., Col. Micr. Brunsv. 1802, p. 51; Er., Gen. Spec. Staph. 1839-40, p. 588 (ex parte); Lac., Gen. Col. ii, 1854, p. 93; Kr., Naturg. Ins. Deutsch. ii, 1856-58, p. 670 (ex parte); Jacq. du Val, Gen. Col. d'Eur. ii, 1857-59, p. 44 (ex parte); Thoms., Skand. Col. ii, 1860, p. 197; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 338 (ex parte); Sharp, Trans. Ent. Soc. Lond. 1876, p. 230; Lynch, Bol. Ac. Cord. vii, 1884, p. 235; Fauv., Rev. d'Ent. iv, 1885, p. 28; Czwalina, D. E. Z. 1888, p. 337; id., l. c. 1889, p. 367; Ganglb., Käf. Mitt. Eur. ii, 1895, p. 501; Casey, Trans. Ac. St. Louis, xv, 1905, pp. 71, 80.

Subgen. *Abletobium* Casey, l. c. pp. 70, 79.

Subgen. *Apteralium* Casey, l. c. pp. 70, 71.

Subgen. *Deratopeus* Casey, l. c. pp. 73, 112.

Subgen. *Eulathrobium* Casey, l. c. pp. 73, 115.

Subgen. *Glyptomerus* Müller, Stett. Ent. Zeit. xvii, 1856, p. 308; Casey, l. c. p. 70; (*Typhlobium* Kr.), W. Z. B. vi, 1856, p. 625.

Subgen. *Heterosoma* Bernh., Stett. Ent. Zeit. lxiv, 1903, p. 33.

Subgen. *Leptobium* Casey, Trans. Ac. St. Louis, xv, 1905, pp. 75, 133.

Subgen. *Microbium* Casey, l. c. pp. 72, 98.

Subgen. *Microbium* Casey, l. c. pp. 72, 97.

Subgen. *Microbium* Casey, l. c. pp. 72, 97. et Rey, Ann. Soc. Linn. Lyon, xxiv, 1877, p. 365.

Subgen. *Microbium* Casey, Trans. Ac. St. Louis, xv, 1905, pp. 72, 103.

Subgen. *Microbium* Casey, l. c. pp. 74, 122.

Subgen. *Microbium* Casey, l. c. pp. 74, 115.

Subgen. *Microbium* Casey, l. c. pp. 75, 131.

Subgen. *Microbium* Casey, l. c. pp. 71, 93.

Subgen. *Microbium* Muls. et Rey, Ann. Soc. Linn. Lyon, xxiv, 1877,

Trans. Ac. St. Louis, xv, 1905, pp. 504, 506; Casey,

Rech. 1886, p. 14.

Subgen. *Microbium* Casey, Trans. Ac. St. Louis, xv, 1905, pp. 75,

142.

Subgen. *Notobium* Solsky, Bull. Mosc. xxxvii, 1864, ii, p. 443;

Fauv., Ann. Mus. Civ. Gen. x, 1877, p. 226.

Subgen. *Notobium* Casey, Trans. Ac. St. Louis, xv, 1905, pp. 75, 130.

Subgen. *Notobium* Ganglb., Käf. Mitt. Eur. ii, 1895, pp. 504, 507.

Subgen. *Notobium* Casey, Trans. Ac. St. Louis, xv, 1905, pp. 74,

129.

Subgen. *Tetartopeus* Czwalina, D. E. Z. 1888, p. 349; Ganglb.,

Käf. Mitt. Eur. ii, 1895, pp. 504, 508; Casey, Trans. Ac. St. Louis,

xv, 1905, pp. 73, 104.

Subgen. *Throbalium* Muls. et Rey, Ann. Soc. Linn. Lyon, xxiv,

1877, p. 99; Casey, Trans. Ac. St. Louis, xv, 1905, p. 71.

BIOLOGY.—Kraatz, Berl. Ent. Zeit. iii, 1859, p. 310, t. 4, f. 4 a-d;
Rupertsberger, Biol. Lit. Käf. Eur. 1894, pp. 124, 125; Xamheu,
Rev. d'Ent. xix, 1900, p. 25.

Large or moderately sized elongate species, with large head and variably developed eyes, the neck stout, the thorax oblong. Gular sutures usually separated and parallel throughout, sometimes more or less fused. Labrum deeply and rather broadly emarginate in front in the middle, edentate. Mandibles stout, curved, pointed, each in the middle with strong pointed tooth and behind with two or three smaller ones. Lobes of the maxilla small, densely ciliate within. Maxillary palpi 4-jointed, the 1st joint small, 2nd elongate, curved, slightly thickened towards apex, 3rd as long as the 2nd, more thickened apically, 4th narrow, short, and conical. Mentum transverse, trapezoidal. Tongue membranous, broad, rounded in front, slightly emarginate in the middle. Paraglossæ well developed, extending a little beyond the tongue. Labial palpi 3-jointed, the 1st joint short, 2nd twice as long and stouter, 3rd slender, about half as long as 2nd. Prosternum well developed in front, its process very short, acute, carinate. Epimera large, triangular, separated from the pronotal epipleura by a suture. Mesosternum narrowed in front to a stout "neck," its process short, acute, free, the coxæ contiguous. Abdomen keeled in the middle of the base. Anterior femora considerably thickened, with a little tooth internally near the middle. Tibiæ setose, the posterior obliquely truncate, at the apex externally as in *Scopæus*. Tarsi 5-jointed, the anterior short, dilated in both sexes; middle and posterior short, the 1st joint as long as or a little shorter than the 2nd, 3rd and 4th short, subequal, 5th shorter than the three preceding together. The reflexed sides of the elytra often with a fine raised line.

The genus is found throughout the world under stones, debris, etc., in damp places.

Subgenera have been erected on the presence or absence of a fine raised line on the reflexed sides of the elytra and the comparative breadth of the head. All the Indian species have the raised line.

Key to the Species.

- | | |
|---|---|
| 1. S black | 2. |
| " coloured | 3. |
| 2. I a serially punctured | <i>nigerrimum</i> Cam., p. 196. |
| " punctured | <i>triste</i> Cam., p. 199 |
| 3. E bluish apical marking | 4. |
| Elytra uniformly coloured | 8. |
| 4. Fore-parts blue | <i>semicaruleum</i> var. <i>ochreo-</i> |
| Fore-parts black, the elytra at most with bluish reflex | <i>notatum</i> Champ., p. 205. |
| | 5. |

- | | |
|---|-------------------------------------|
| 5. Elytral spot large, occupying the whole apical area | 7. |
| Elytral marking small | 6. |
| 6. Elytral marking occupying the postero-external angle only; smooth median line of thorax feebly indicated | <i>gracilentum</i> Kr., p. 203. |
| Elytral marking rather narrow, occupying the whole posterior margin; smooth median line of thorax well marked | [p. 202.] |
| 7. Head in greater part opaque; legs dark, the posterior femora sometimes testaceous except at apex | <i>kashmiricum</i> , sp. n., |
| Head shining; legs dark, the middle and posterior femora testaceous, except at apex | <i>guttrula</i> Fauv., p. 201. |
| 8. Elytra entirely blue | <i>pustulatum</i> , sp. n., p. 202. |
| Elytra otherwise | <i>semicæruleum</i> Cam., |
| 9. Elytra black (sometimes red in <i>cafrum</i>). Elytra red or reddish | 9. [p. 204.] |
| 10. Larger (9 mm.). Head red. Thorax and elytra irregularly punctured | 10. |
| Smaller (6 mm.). Head black, rarely red. Thorax and elytra serially punctured .. | 11. |
| 11. Abdomen reddish-testaceous | <i>badium</i> Cam., p. 207. |
| Abdomen black | <i>cafrum</i> Boh., p. 209. |
| 12. Head subquadrate; elytra serially punctured | 12. |
| Head oval; elytra irregularly punctured | 13. |
| 13. Head black, thorax and elytra red | <i>unicolor</i> Kr., p. 210. |
| | <i>subleve</i> Motsch., p. 207. |
| | <i>cylindricolle</i> Cam., p. 206. |
| | <i>seminigrum</i> Kr., p. 205. |

774. *Lathrobium nigerrimum*. (Fig. 75.)

Lathrobium (Lobrathium) nigerrimum Cam., Trans. Ent. Soc. Lond. 1924, p. 192.

Black, very shining; head and thorax very sparingly punctured; elytra with four rows of punctures; antennæ and palpi ferruginous; legs yellow, the anterior femora and all the tibiæ more or less brownish-yellow. Length 8 mm.

Remarkable by the short broad thorax, which is slightly broader than long. In facies very similar to *L. australicum* Solsky. Head slightly transverse, subquadrate, scarcely as broad as the thorax, the eyes large, their diameter much greater than the length of the parallel temples, posterior angles rounded; sculpture consisting of three punctures placed longitudinally at the base of the antennal tuberosity on either side, three juxta-ocular, two or three temporal, and a larger one between the postero-internal border of the eye and the vertex, but nearer the former. Antennæ with all the joints longer than broad, and narrowed at their bases. Thorax subquadrate, slightly longer than broad, widest at the briefly rounded anterior angles, the sides gradually narrowed in a straight line to the rounded posterior angles, disc on either side with row of five moderate punctures, externally with four others, of

which the anterior, situated near the anterior margin, is the largest and more distant from the rest of the series; between these and the middle of the lateral margin is a group of three others close together. Elytra as long as but a little broader than the thorax, about as long as broad, the reflexed margin finely keeled throughout, between this and the suture with four rows, each consisting of eight or nine punctures, those of the discal and humeral rows larger than the others, the sutural row smallest and more closely placed. Abdomen black and shining, moderately finely and moderately closely punctured on the first three segments, more finely and sparingly

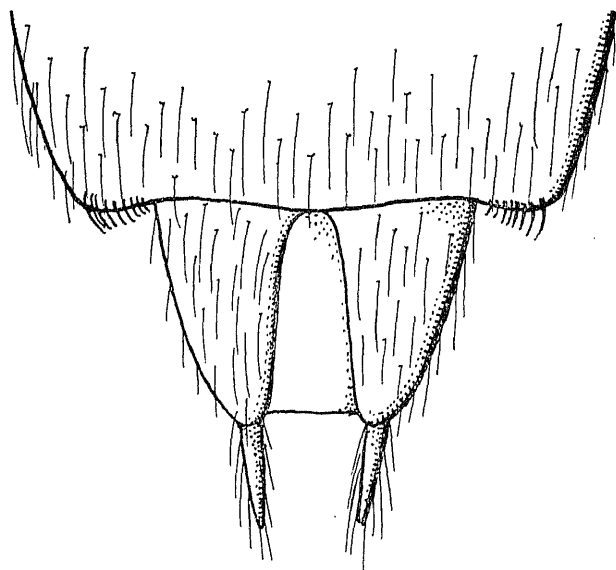


Fig. 75.—*Lathrobium nigerrimum*, apex of abdomen of ♂; ventral surface.

on the following, finely and rather sparingly pubescent, finely setiferous at the sides posteriorly and the apex.

♂: 6th ventral segment with deep, narrow, parallel-sided excision; 5th feebly emarginate on either side, with some long black setae externally.

Siwaliks. Mussoorie district: Arni Gad; Kaligad.

775. *Lathrobium triste*. (Fig. 76.)

Lathrobium (Lobrathium) triste Cam., Trans. Ent. Soc. Lond. 1924, p. 193.

Entirely black, shining; antennae and palpi fusco-ferruginous; femora black, tibiae and tarsi brown. Length 8.75mm.

Head orbicular, as broad as the thorax, eyes moderate; a small space on the vertex and the anterior border impunctate, the rest of the surface moderately coarsely, very closely punctured at the sides and base, much less closely on the disc and in front, sides with a few black setæ; neck broad. Antennæ with 2nd joint shorter than 3rd, 4th to 10th oval, narrowed at the base, gradually decreasing in length, 11th a little longer than 10th. Thorax longer than broad, widest at the rounded

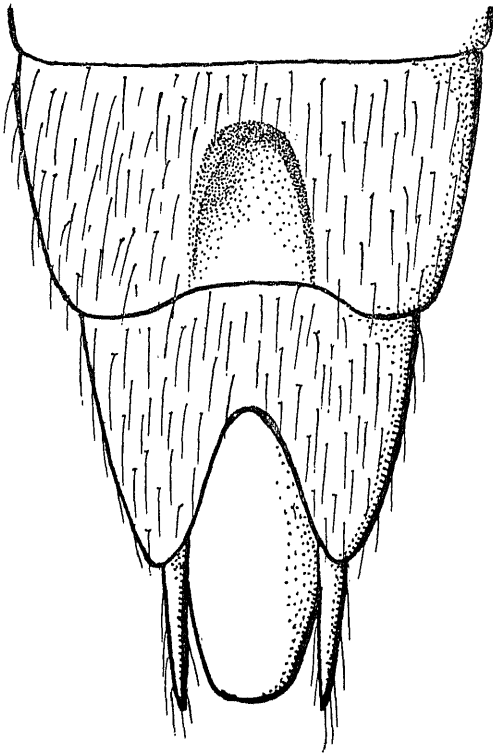


Fig. 76.—*Lathrobium triste*, apex of abdomen of ♂;
ventral surface.

anterior angles, the sides straight, a little narrowed behind; median line smooth throughout, the rest of the surface moderately coarsely and rather closely punctured. Elytra a little wider than, and as long as, the thorax, longer than broad, coarsely, closely, subserially punctured, the reflexed margin with longitudinal crest. Abdomen moderately finely, moderately closely punctured at the bases of the segments, closely and much more finely punctured elsewhere, the 5th and 6th

segments very finely and less closely punctured, finely grey pubescent.

♂: 4th ventral segment with small median fovea; 5th rather broadly emarginate behind, with large horseshoe-shaped impression; 6th deeply, rather broadly excised, the apex of the excision rounded.

Chakrata district: Manjgaon; Dodora Khud; Chulli Khud; 6500 to 8000 feet above the sea.

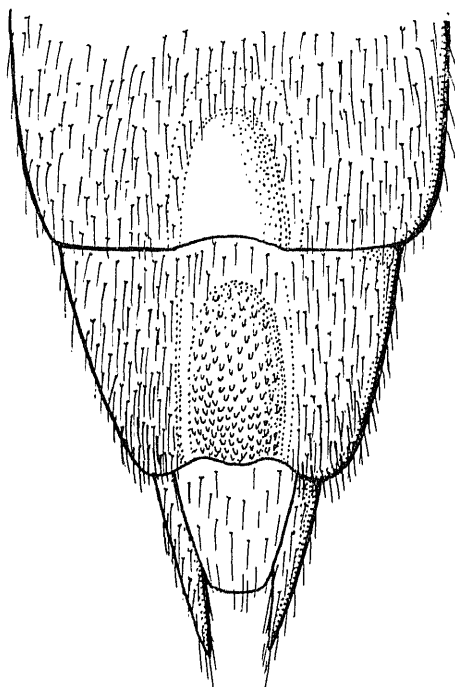


Fig. 77.—*Lathrobium guttula*, apex of abdomen of ♂; ventral surface.

776. *Lathrobium guttula*. (Fig. 77.)

Lathrobium guttula Fauv., Rev. d'Ent. xiv, 1895, p. 234.

Black; head (except the front and a plaque on the vertex) subopaque, the rest shining, the elytra often with slightly bluish reflex, the apex of each with a large, round, yellow spot. Antennæ dark, the last two joints reddish or with the first two joints also red. Legs dark or with the posterior femora reddish-testaceous except at apex; tarsi reddish. Length 7.5 mm.

Head suborbicular, broader than the thorax, the frontal margin and a plaque on the vertex smooth and shining, the rest very closely, rather finely, rugosely punctured, finely grey pubescent. Antennæ with all the joints longer than broad, gradually decreasing in length, the penultimate about a half longer than broad, the 11th oval. Thorax longer than broad, the sides straight, a little retracted behind, along the middle with smooth shining line, otherwise rather closely and moderately coarsely punctured. Elytra a little longer and broader than the thorax, coarsely, closely, rugosely punctured. Abdomen extremely finely, closely punctured, at the impressed bases of the segments more coarsely, finely and closely greyish-pubescent.

♂: 6th^{re} ventral segment with bisinuate emargination and with a long deep impression in front of it, the fundus narrowly smooth and shining along the middle, the sides asperate; 5th arcuately emarginate, with large rounded impression in front, the fundus smooth and shining, the sides asperate.

Burma: Carin Asciiui Ghécu, alt. 1400 to 1500 metres (Fea). Sikkim: Darjeeling (Christie). Siwaliks: Lachiwala (Cameron).

777. *Lathrobium pustulatum*, sp. n. (Fig. 78.)

Very closely allied to *L. guttula*, of the same size, build, and colour, but the head is shining and distinctly less finely punctured, the thorax more coarsely punctured and the middle and posterior femora are testaceous except at the apex; the antennæ are brown, the 1st and last joints reddish.

♂: 6th ventral segment with deep excision, its apex rounded, the surface in front impressed and asperate to the base; 5th with somewhat horseshoe-shaped impression deeper in front, the fundus nearly smooth; 4th with smaller, more superficial impression; 3rd with a yet smaller impression behind.

Assam: Naga Hills, alt. 9000 feet (S. N. Chatterjee).

778. *Lathrobium kashmiricum*, sp. n.

Black, shining, the posterior margins of the elytra rather narrowly and obscurely reddish. Antennæ and legs reddish-brown. Length 7 mm.

Of the build of *L. pustulatum*, but the head more shining, less closely punctured between the eyes, the elytra less coarsely punctured and differently marked, the legs differently coloured. Head suborbicular, broader than the thorax, moderately coarsely, rather closely punctured, on the vertex with a small impunctate space, at the sides and base much more closely and more finely punctured. Antennæ as in *pustulatum*. Thorax cylindrical, a little narrowed behind, smooth along the middle,

a little less closely punctured than in *pustulatum*, elytra a little less coarsely punctured than in that species. Abdomen extremely finely, closely punctured and finely pubescent.

Kashmir: Ramsu, Chenab Valley, alt. 4500 feet (*B. M. Bhatia*).

779. *Lathrobium gracilentum*.

Lathrobium gracilentum Kr., Arch. Naturg. xxv, 1859, i, p. 115.

Narrow, shining, black, the abdomen less shining, the elytra with a yellow spot at the apical margin externally.

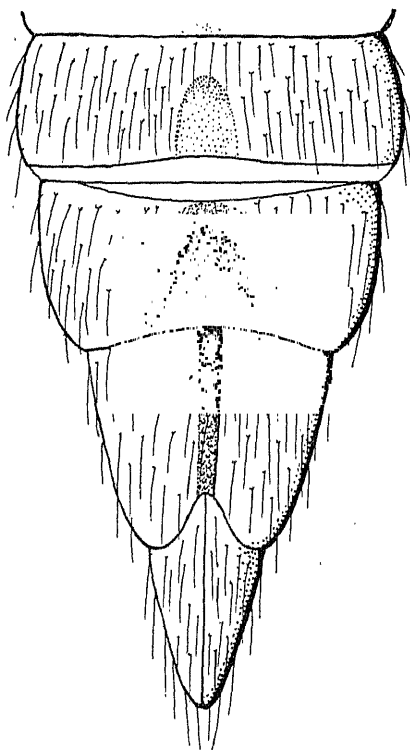


Fig. 78.—*Lathrobium pustulatum*, apex of abdomen of ♂ ; ventral surface.

Antennæ brown, the 1st joint red, the terminal joints testaceous. Palpi pitchy. Anterior legs brown, the middle and posterior reddish or reddish-testaceous. Length 6 mm.

Head suborbicular, scarcely narrower than the thorax, the sides and base closely and finely, in front more strongly punctured, finely pubescent and with some black setæ. Antennæ

with all the joints longer than broad, the 4th to 10th subequal. Thorax much longer than broad, cylindrical, along the middle with narrow indistinct smooth line, the disc more closely and coarsely, the sides more finely punctured. Elytra a little longer and a little broader than the thorax, closely and rather coarsely punctured. Abdomen very closely and very finely punctured and pubescent, sericeous.

Ceylon.

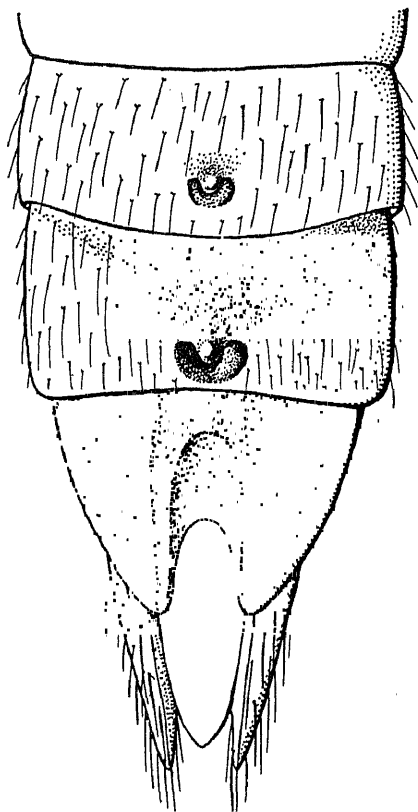


Fig. 79.—*Lathrobium semicæruleum*, apex of abdomen of ♂ ;
ventral surface.

780. *Lathrobium semicæruleum*. (Fig. 79.)

Lathrobium semicæruleum Cam., E. M. M. lvii, 1921, p. 271.

Lathrobium semicæruleum var. *ochreonotatum* Champ.*, E. M. M.
lviii, 1922, p. 34.

Moderately shining, the fore-parts blue, the abdomen black ; mouth-parts pitchy. Antennæ and legs black.

Length 7 mm.

The variety *ochreonotatum* has a large yellow spot occupying nearly the posterior half of each elytron, but not extending on to the epipleura.

Very distinct from all the Indian species by the coloration. In build very similar to *L. lævipenne* Heer, but the head is rather broader and the thorax shorter. Head wider than the thorax, as long as broad, the temples parallel, the posterior angles rounded; puncturation coarse, umbilicate, and close, in front not so close; vertex with an almost smooth, shining, transverse space. Antennæ with all the joints longer than broad, the 4th to the 10th scarcely differing among themselves. Thorax oblong, the anterior and posterior angles rounded, the disc with smooth central line throughout; puncturation umbilicate, coarse, and rather close. Elytra distinctly longer and a little broader than the thorax, coarsely and rather closely punctured. Abdomen with the first three visible segments transversely impressed at the base, the first four moderately closely and moderately coarsely punctured, more especially at the bases, the two terminal segments much more finely and less closely punctured; pubescence moderate, silvery.

♂: 6th ventral segment with deep semi-oval excision of the posterior border, impressed throughout in front of the excision, the impression smooth except in front and at the sides, where it is asperate; 5th with an erect tubercle in the middle, the surface between it and the posterior border almost smooth; 4th with a minute tubercle in the centre.

Sikkim: Gopaldhara (*H. Stevens*). Kumaon: West Bhatkot (alt. 4000 feet) and West Almora (*H. G. Champion*: iii. 1919, iv. 1920). Mussoorie. Dehra Dun.

The variety is found at Ranikhet in West Almora and the Simla Hills.

781. *Lathrobium seminigrum*.

Lathrobium seminigrum Kr., Arch. Naturg. xxv, 1859, i, p. 117.

Narrow, elongate, subconvex, shining; red, the abdomen black; thorax biserially punctured, elytra striate-punctate. Antennæ red, the base reddish-testaceous. Legs reddish-testaceous. Length 3.8 mm.

Head a little broader than the thorax, smooth along the middle, elsewhere finely and sparingly punctured with scanty, short, erect yellow pubescence. Antennæ with the 3rd joint scarcely longer than the 2nd, the following longer than broad, gradually decreasing in length. Thorax about twice as long as broad, cylindrical, smooth along the middle, on each side with a row of rather regular close punctures, the sides irregularly and not closely punctured. Elytra a little longer and a good deal broader than the thorax, with rows of coarse close

punctures on the disc, finer externally and obsolete towards the apex. Abdomen finely, rather sparingly punctured, with long yellow pubescence.

♂: 6th ventral segment deeply triangularly excised.
Ceylon.

782. *Lathrobium cylindricolle*. (Fig. 80.)

Lathrobium (Lobrathium) cylindricolle Cam., Trans. Ent. Soc. Lond. 1924, p. 194.

Head dark red, thorax pitchy-red, abdomen black, the apex of the latter red; elytra red; antennæ brown; legs reddish-yellow. Length 6 mm.

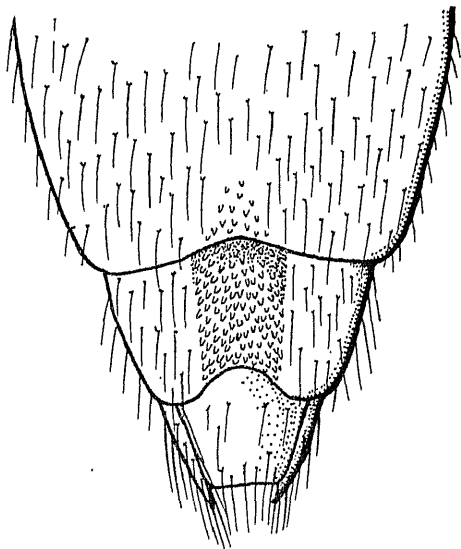


Fig. 80.—*Lathrobium cylindricolle*, apex of abdomen of ♂; ventral surface.

Head subquadrate, wider than the thorax, a little longer than broad, the eyes rather small, temples long, the posterior angles rather broadly rounded, the anterior border, antennal tuberosities, and a space on the vertex impunctate, the front sparingly punctured, the rest of the surface closely and moderately coarsely punctured. Antennæ with 3rd joint longer than 2nd, 4th to 10th all longer than broad, the penultimate twice as long as broad, 11th as long as 10th. Thorax narrow, cylindrical, the sides parallel, the anterior angles broadly rounded, medially with longitudinal lines, the space throughout; externally with a row of small punctures, narrow impunctate

space not extending to the anterior border, the rest of the surface closely and moderately coarsely punctured like the head. Elytra much broader and a little longer than the thorax, longer than broad, the reflexed sides with a longitudinal keel evanescent towards the shoulders, coarsely, closely, subseriately punctured. Abdomen black, posterior margin of 5th and whole of 6th segments red, moderately finely and moderately closely punctured, more finely and sparingly on the last two segments; finely pubescent.

♂: 5th ventral segment slightly emarginate behind, broadly longitudinally impressed, the fundus furnished with black asperities moderately closely placed; 6th ventral segment deeply longitudinally impressed throughout, the impression densely covered with black asperities, the posterior margin crescentically excised, the border of the excision smooth.

Dehra Dun district: Nun Nadi.

783. *Lathrobium sublaeve*.

Lathrobium sublaeve Motsch., Bull. Mosc. xxxi, 1858, ii, p. 647.

Of the elongate build of *Sunius filiformis*, but narrower. Shining reddish-testaceous, the elytra, legs, palpi, and base of the antennæ lighter. Puncturation rather coarse, but sparing. Head elongate, rounded; thorax narrower than the head, elongate oval; the smooth median line raised behind and with a little longitudinal impression on each side and a row of punctures; elytra a fourth longer and a little broader than the thorax, the puncturation confluent and not deep; abdominal segments punctured at the base, shining; anal styles slender.

"Indes orientales" (ex *Motschoulsky*).

784. *Lathrobium badium*. (Fig. 81.) (Plate II. fig. 5.)

Lathrobium (Lobrathium) badium Cam., Trans. Ent. Soc. Lond. 1924, p. 193.

Shining, red, elytra black, abdomen brownish-red, the apex blackish; antennæ reddish-brown; legs yellow. Length 9 mm.

Head orbicular, wider than the thorax, the neck broad, eyes moderate, the sides and base densely, moderately finely punctured, the disc and sides of the front much less densely, the anterior border, a triangular space in front and one on the vertex impunctate. Antennæ with the 3rd joint longer than 2nd, 4th to 10th all longer than broad, narrowed at the bases, 11th as long as 10th. Thorax longer than broad, widest at the broadly rounded anterior angles, the sides almost straight and gradually narrowed posteriorly, median line impunctate throughout, the rest of the surface moderately finely, closely punctured, rather more finely and closely at the sides. Elytra

a little longer and broader than the thorax, distinctly longer than broad, the reflexed margin with longitudinal crest, rather coarsely, closely, subserially punctured. Abdomen at the bases of the segments closely and moderately finely punctured, the rest very finely and rather closely punctured and pubescent, much more sparingly on the last segment.

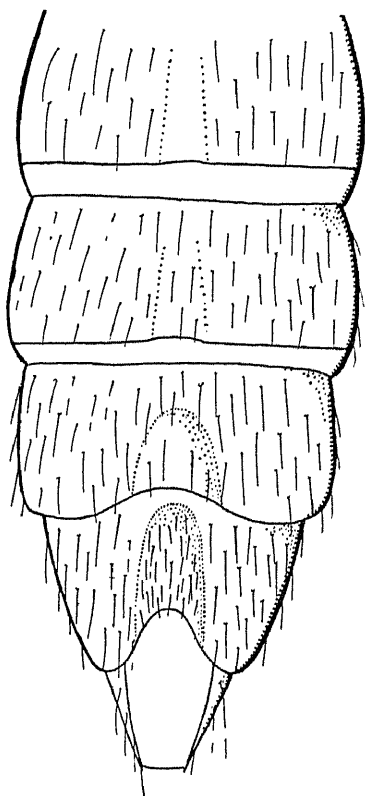


Fig. 81.—*Lathrobium badium*, apex of abdomen of ♂ : ventral surface.

♂ : 3rd and 4th ventral segments longitudinally impressed in middle ; 5th with broader and deeper impression, emarginate behind and nearly smooth ; 6th more narrowly impressed throughout, the sides of the impression densely clothed with black asperities, the posterior margin deeply semicircularly excised.

Mussoorie district : Dhobi Ghat ; Keyarkuli, 6000 feet above the sea. Dehra Dun district : Nim Nadi ; Song River.

785. *Lathrobium cafrum*. (Fig. 82.)*Lathrobium cafrum* Boh., Ins. Caffr. i, 1848, p. 285.*Lathrobium pulchellum* Kr., Arch. Naturg. xxv, 1859, i, p. 116;
Fauv., Rev. d'Ent. xxii, 1903, p. 154.

Subdepressed, shining; head and elytra black, occasionally one or both entirely or in part red; thorax red; abdomen red or brownish-red. Antennæ and legs reddish-yellow. Length 6 mm.

Head scarcely narrower than the thorax, subquadrate, the posterior angles rounded, the front and middle of the disc smooth, at the sides and base rather finely and rather closely punctured, towards the front more coarsely and more sparingly.

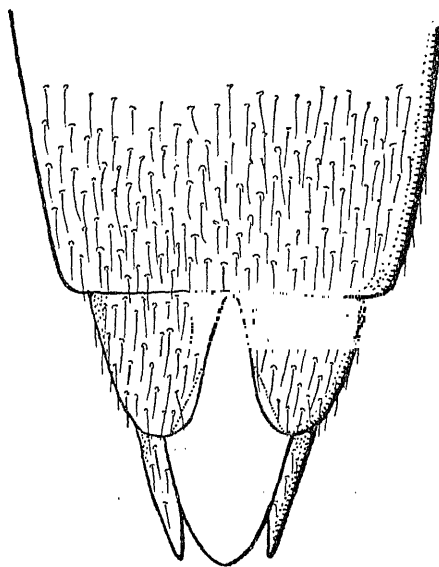


Fig. 82.—*Lathrobium cafrum*, apex of abdomen of ♂;
ventral surface.

Antennæ slender, all the joints longer than broad. Thorax cylindrical, longer than broad, smooth along the middle, on each side with a row of about fifteen fine punctures, externally with narrow impunctate area, the sides rather closely and moderately finely punctured. Elytra as long as, but broader than the thorax, with several rows of moderately fine punctures. Abdomen closely and finely punctured and pubescent throughout.

♂: 6th ventral segment with very long, narrow, acutely triangular excision, the edges bevelled and elevated in front.

Ceylon. India : Mahé ; Calicut ; Dehra Dun. Burma : Pegu. Widely distributed in the Oriental Region. Also in East and West Africa.

786. *Lathrobium unicolor*.

Lathrobium unicolor Kr., Arch. Naturg. xxv, 1859, i, p. 117.

Near *L. cafrum*, but a little smaller and especially narrower, unicolorous reddish-testaceous, the anterior region of the front more sparingly and more strongly punctured. Occasionally with the postero-external angle of the elytra infuscate.

Northern India.

Genus **PSEUDOBIMUM** Muls. et Rey.

Pseudobium Muls. et Rey, Ann. Soc. Linn. Lyon, xxiv, 1877, p. 104 ; Ganglb., Käf. Mitt. Eur. ii, 1895, p. 500 ; Casey, Trans.

Ac. St. Louis, xv, 1905, p. 72.

Subgen. *Dysanabatium* Bernh., Tijdsch. Ent. lviii, 1915, p. 225.

This genus is closely allied to *Lathrobium*, but is distinguished by the 1st joint of the posterior tarsi being longer than the 2nd ; the labrum is less deeply emarginate and the 3rd joint of the maxillary palpi more dilated and pyriform. The head is longer and narrower, the thorax longer, narrower, and more cylindrical. Besides the Indian species only one European member of the genus is known. They are found on the banks of streams.

Key to the Species.

- | | |
|--|-----------------------------------|
| 1. Head, thorax, and elytra clear yellow . . | 2. |
| Head and thorax red, elytra black, the posterior margin yellow | <i>læviventre</i> Champ., p. 210. |
| 2. Elytra serially punctured to the posterior third | <i>assimile</i> Cam., p. 212. |
| Elytra subserially punctured at the base only | <i>semiflavum</i> Cam., p. 211. |

787. *Pseudobium læviventre*. (Fig. 83.)

Pseudobium læviventre Champ.*, E. M. M. lviii, 1922, p. 34.

Shining ; head and thorax red ; elytra and abdomen black, the posterior margin of the former moderately broadly yellow. Antennæ reddish, the first two joints yellow. Legs with pitchy femora, the tibiæ and tarsi yellow. Length 5 mm.

Head oblong, wider than the thorax, impunctate along the middle nearly to the base, elsewhere with rather fine, scattered, umbilicate punctures. Antennæ rather long, all the joints longer than broad, the 11th longer than the 10th. Thorax narrow, cylindrical, with rather broad, median, impunctate space throughout, the rest sparingly covered with similar punctures as on the head. Elytra a little longer and broader than the thorax, with regular rows of rather coarse umbilicate

punctures, except on the yellow apical area, which is practically impunctate. Abdomen with the first four segments transversely impressed at the base, and each with a little median basal keel, finely and rather sparingly punctured. The whole insect sparingly covered with more or less erect and long pubescence.

♂: 6th ventral segment with acute triangular excision.

Kumaon: Almora; Swal River Division; Ranikhet.
Dehra Dun: Song River; Nim Nadi; Saiya.

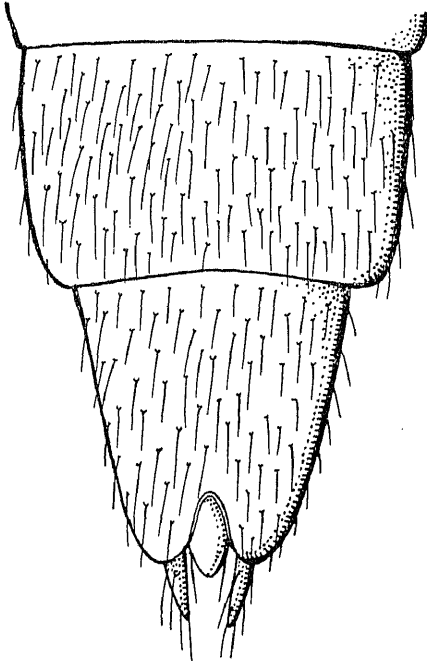


Fig. 83.—*Pseudobium laeviventre*, apex of abdomen of ♂; ventral surface.

788. *Pseudobium semiflavum*.

Pseudobium semiflavum Cam., Trans. Ent. Soc. Lond. 1924, p. 195.

Shining; head, thorax, and elytra yellow, the base of the latter subseriately punctured, the thorax with the sides uniformly punctured; abdomen black or pitchy; antennæ and legs yellow. Length 4.25 mm.

A smaller, more fragile insect than *P. laeviventre* Champ., differently coloured and with much more closely punctured fore-parts. Head oblong, wider than the thorax, the eyes small, the temples long, parallel, the posterior angles rounded,

closely and moderately finely punctured, the puncturation of the temples finer. Antennæ with the 3rd joint longer than 2nd, 4th to 10th all longer than broad, a little narrowed at the bases, 11th as long as 10th. Thorax much longer than broad, narrow and cylindrical, disc with narrow impunctate median space throughout, the rest of the surface closely and rather more finely punctured than the head. Elytra broader and a little longer than the thorax, much longer than broad, closely and finely punctured, the puncturation at the base subseriate and rather less fine. Abdomen finely and rather closely punctured, pubescence grey, rather long and coarse.

Dehra Dun district : Song River.

789. *Pseudobium assimile*.

Pseudobium assimile Cam., Trans. Ent. Soc. Lond. 1924, p. 195.

Shining; head, thorax, and elytra yellow, the latter seriatly punctured, sides of thorax with narrow impunctate space; abdomen pitch-brown; antennæ and legs yellow. Length 4.5 mm.

Very near the preceding, but the head is oval with the base truncate, the front and a narrow space on vertex is impunctate, the puncturation less fine and less close, the antennæ shorter (but similarly constructed), the median impunctate space on the thorax is broader and limited externally by a row of numerous closely-set punctures, outside of which is another narrow impunctate space extending practically the whole length of the thorax, the rest of the surface closely and finely punctured, the elytra are seriatly and less finely punctured up to the posterior third, the abdomen is very finely and much less closely punctured.

Dehra Dun district : Mothronwala.

Genus **SCIMBALIUM** Er.

Scimbalium Er., Gen. Spec. Staph. 1839-40, p. 579; Jacq. du Val, Gen. Col. d'Eur. ii, 1857-59, p. 43; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 359; Muls. et Rey, Ann. Soc. Linn. Lyon, xxiv, 1877, p. 109; Ganglb., Käf. Mitt. Eur. ii, 1895, p. 499; Casey, Trans. Ac. St. Louis, xv, 1905, p. 73; Peyerimhoff, Bull. Soc. Ent. Fr. 1907, p. 249.

Scymbalium Lac., Gen. Col. ii, 1854, p. 92; Kraatz, Naturg. Ins. Deutsch. ii, 1856-58, p. 667.

Lathrobiomorphus Gemm. et Har., Cat. Col. ii, 1868, p. 612; Fauv., Ann. Mus. Civ. Gen. x, 1877, p. 231; Fauv., Rev. d'Ent. xiv, 1895, p. 235.

Lathrobomorphus Motsch., Bull. Mosc. xxxi, 1858, ii, p. 645.

Micrillus Raff., Rev. Mag. Zool. (3) i, 1873, p. 362.

Subgen. *Schatzmayria* Gridelli, Col. Rund, iii, 1915, p. 69; ix, 1921, p. 87.

Depressed, parallel species with stout neck and trapezoidal thorax. Differs from *Achenium* in the structure of the pos-

terior tarsi and the abdomen distinctly keeled at the base below; from *Lathrobium* by the depressed form, tarsal structure, etc. Neck broad, gular sutures narrowly separated throughout. Labrum short and broad, in the middle with small subtriangular emargination. Mandibles stout at the base, slender, curved, and pointed towards the apex, each with three small teeth internally. Maxillary lobes small, densely ciliate. Maxillary palpi with the 1st joint small, 2nd elongate, curved, slightly thickened apically, 3rd as long as the 2nd, but much more thickened at apex, 4th short, conical. Mentum very short, trapezoidal. Tongue broad, membranous, in the middle of the anterior border with a small notch. Paraglossæ ciliate, not extending beyond the tongue. Labial palpi 3-jointed, 1st joint short, narrow at base and dilated apically, 2nd twice as long, cylindrical, 3rd shorter and narrower, scarcely half as long as the 2nd. Prosternum short, keeled, its process short, broad, obtusely pointed; epimera large and triangular or narrow. Mesosternal process short, sharp, free, extending but little between the coxæ, these elongate, contiguous. Metasternum short. Abdomen keeled below at the base. Tibiæ setose externally, the middle with a few spines. Tarsi 5-jointed, the anterior either simple or dilated in both sexes; middle and posterior slender, the joints decreasing in length to the 4th, the 1st much longer than the 2nd, the 5th as long as 3rd and 4th together.

The genus is found throughout the world except the American continent under stones in damp places.

Key to the Species.

- | | |
|--|--|
| 1. Species entirely dark brown..... | <i>brunneum</i> , sp. n., p. 213. |
| Species entirely or in great part reddish-yellow | 2. |
| 2. Species entirely reddish-yellow..... | 3. [p. 214. |
| Species with head black | <i>indicum</i> var. <i>nigriceps</i> , n., |
| 3. Larger (8·9 mm.) | <i>badium</i> Motsch., p. 214. |
| Smaller (4·5 mm.) | 4. |
| 4. Penultimate joints of the antennæ longer than broad | <i>indicum</i> Epp., p. 214. |
| Penultimate joints of the antennæ transverse | <i>asperiventre</i> Fauv., p. 215. |

790. *Scimbalium brunneum*, sp. n.

Entirely dark reddish-brown, closely pubescent, the head and thorax more shining than the elytra and abdomen. Antennæ brownish-testaceous, the apex of the joints infuscate. Legs testaceous, the tibiæ infuscate. Length 8 mm.

Head as broad as the thorax, slightly transverse, the temples parallel, the posterior angles rounded, behind the antennal tubercle on each side with two large punctures obliquely placed, the disc almost impunctate, the sides and base

finely and moderately closely punctured, pubescence greyish, with some long black setæ. Antennæ long and slender, all the joints much longer than broad, narrowed at the base, gradually decreasing in length. Thorax a little longer than broad, trapezoidal, widest in front, the sides straight and retracted behind, in the middle before the base with short obsolete keel, on each side narrowly and obsoletely impressed, the rest of the surface extremely finely and rather closely punctured, with a close, fine, grey pubescence, at the sides with some long black setæ. Elytra a little longer but scarcely broader than the thorax, very finely, closely, and roughly punctured, closely pubescent. Abdomen finely and closely punctured and pubescent, not asperate.

♂: unknown.

India (without further indication).

791. *Scimbalium badium*.

Lathrobomorphus badium Motsch., Bull. Mosc. xxxi, 1858, ii, p. 646, t. 1. fig. f.

Larger than *Lathrobium elongatum* and proportionally broader, testaceous-red, more opaque and griseous on the elytra. The whole upper surface very finely punctured and covered with a more or less thick and velvety pubescence.

"Indes orientales" (ex *Motschoulsky*). *Lathrobium elongatum* is 8-9 mm. long.

792. *Scimbalium indicum*.

Scimbalium indicum Epp., W. E. Z. ix, 1890, p. 277.

Rather shining, reddish-yellow, finely pubescent, elytra less shining, brownish-yellow. Antennæ and legs reddish-yellow. Length 4.5 mm.

Var. *nigriceps*, n. Head black or pitchy.

Smaller and narrower than the European *S. testaceum* Er., of paler colour and with smaller head. Head as broad as the thorax, suborbicular, the temples nearly straight, the posterior angles briefly rounded, the sides and vertex very finely, sparingly, unequally punctured, in front more sparingly, on each side behind the antennal tubercle with two larger punctures placed obliquely. Antennæ a little longer than the head and thorax, all the joints longer than broad, gradually decreasing in length. Thorax a little longer than broad, the sides straight, retracted behind, along the middle with narrow, smooth, impunctate line subcarinate behind, very finely, closely, and obsoletely punctured. Elytra a little longer than the thorax, finely, closely, and roughly punctured. Abdomen closely and unequally punctured in front, more sparingly and more asperately behind. Anterior tarsi simple in both sexes.

♂: 6th ventral segment with narrow, deep, subtriangular excision.

Nagpur. The variety comes from Calcutta.

793. *Scimbalium asperiventre*.

Scimbalium asperiventre Fauv., Rev. d'Ent. xiv, 1895, p. 235.

Size and colour of *S. indicum* Epp., but with quite different puncturation; more shining, sparingly yellow pubescent; antennæ shorter, submoniliform, the 7th and 8th joints scarcely, the 9th and 10th somewhat transverse; head more convex, more parallel, more sparingly and more strongly punctured; thorax narrower and more convex, more parallel, in front as wide as the head, the smooth median line broad, on each side sparingly and much more strongly punctured; elytra scarcely longer than the thorax, one-fourth broader, occasionally a little infusate, scarcely asperate, rather closely, finely, squamosely punctured; abdomen very shining, the pubescence scanty and the punctures scattered, asperate, more finely punctured on the two basal and apical segments.

♂: 7th [6th] ventral segment broadly, not deeply arcuately excised. Length 4.5 mm.

Burma: Katha; Pegu; Palon. Also in Siam and Borneo (ex *Fauvel*).

Genus **ACHENIUM** Curt.

Achenium Curt., Brit. Ent. iii, 1826, pl. 115; Steph., Ill. Brit. Ent., v, 1832, p. 265; Er., Käf. Mark. Brand. 1837-39 (1839), p. 501; id., Gen. Spec. Staph. 1839-40, p. 581; Lac., Gen. Col. ii, 1854, p. 92; Kraatz, Naturg. Ins. Deutsch. ii, 1856-58, p. 689; Jacq. du Val, Gen. Col. d'Eur. ii, 1857-59, p. 44; Fauvel, Faun. Gallo-Rhén. iii, 1872, p. 361; Muls. et Rey, Ann. Soc. Linn. Lyon, xxiv, 1877, p. 14; Ganglb., Käf. Mitt. Eur. ii, 1895, p. 497; Casey, Trans. Ac. St. Louis, xv, 1905, p. 73.

Depressed species resembling *Scimbalium*, but with different labrum and posterior tarsi, the 5th joint being as long as all the preceding joints together. Head with stout neck, the gular sutures narrowly separated. Labrum divided by a broad triangular emargination extending to the base into two diverging teat-shaped lobes. Mandibles rather stout, curved, pointed, each with two small teeth within. Maxillary lobes small, densely ciliate. Maxillary palpi 4-jointed, the 1st joint small, 2nd slightly curved, thickened apically, 3rd a little longer and thickened at apex, 4th small and conical. Mentum, tongue, and labial palpi as in *Scimbalium*. Prosteronum as in *Scimbalium*; epimera triangular, fused with the pronotal epipleura. Mesosternum narrowed to a neck in front, its process short and acute, the coxæ globular, contiguous. Metasternum short. Abdomen scarcely keeled at the base below. Anterior femora thickened and angulate internally. Tibiæ

setose, the posterior obliquely truncate externally at the apex. Anterior tarsi strongly dilated in both sexes; middle and posterior slender, the first four joints subequal, rather short, the 5th as long as all the preceding together.

The genus is widely distributed throughout the world except in Australia; the species are found under stones in damp places.

794. *Achenium humerale*.

Achenium humerale Motsch., Bull. Mosc. xxxi, 1858, ii, p. 648.

About the size of *Lathrobium rufipenne*, but flatter. Brown-black, but little shining, base of the antennal joints, legs, tarsi, and humeral angles of the elytra more or less yellowish-red, ligatures of the abdominal segments whitish. The whole upper surface very finely and very closely punctured and with a short velvety pubescence. Head rounded behind; thorax as broad as the head, the sides sinuate and retracted behind, somewhat cordate, the anterior angles rather prominent but obtuse, at the middle of the base with a small, smooth, median, elevated line, on each side with a longitudinal impression; elytra scarcely broader than the thorax, but a fourth longer; abdomen narrowed behind, the anus testaceous, the anal styles distinct.

"Indes orientales" (ex *Motschoulsky*). *Lathrobium rufipenne* is 6 to 7 mm. long.

Genus *DOLICAON* Cast.

Dolicaon Cast., Etud. Ent. i, 1835, p. 119; Er., Gen. Spec. Staph. 1839-40, p. 576; Lac., Gen. Col. ii, 1854, p. 91; Kr., Naturg. Ins. Deutsch. ii, 1856-58, p. 692; Jacq. du Val, Gen. Col. d'Eur. ii, 1857-59, p. 42; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 336; Sharp, Trans. Ent. Soc. Lond. 1876, p. 247; Muls. et Rey, Ann. Soc. Linn. Lyon, xxiv, 1877, p. 9; Ganglb., Käf. Mitt.-Eur. ii, 1895, p. 496; Casey, Trans. Ac. St. Louis, xv, 1905, p. 56.

Adelobium Nordm., Symb. 1836, p. 139.

Leptobium Casey, Trans. Ac. St. Louis, xv, 1905, p. 57.

Pinobius M'Leay, Trans. Ent. Soc. N. S. Wales, ii, 1871, p. 148; Fauv., Ann. Mus. Civ. Gen. x, 1877, p. 225.

Somewhat similar in build to *Lathrobium*, but the neck is much broader, the 1st joint of the posterior tarsi is much longer than the 2nd, the 4th joint of the maxillary palpi papilliform, etc. Head large, more or less square or oblong, the eyes rather small. Labrum transverse, moderately broadly and deeply emarginate in the middle in front, on each side of the emargination with a tooth, externally on each side occasionally with a small and obsolete one. Mandibles stout, curved, pointed, each with a bicuspid tooth internally. Maxillary lobes small, densely ciliate. Maxillary palpi 4-jointed, the 1st joint very small, 2nd stout, curved, thickened apically, 3rd

a good deal longer than the 2nd, more thickened towards the apex, the 4th short and broad, papilliform. Mentum transverse, trapezoidal. Tongue small, membranous, completely divided into two rounded lobes. Paraglossæ well developed, extending considerably beyond the tongue. Labial palpi 3-jointed, 1st joint moderate, 2nd a good deal longer, oblong, 3rd much narrower, short, and cylindrical. Prosternum short, its process very short, keeled, acute. Epimera large, triangular, fused with the epipleura. Mesosternum scarcely narrowed in front, its process very short, acute, carinate, free, the coxæ contiguous. Abdomen keeled at the base below. Anterior femora angularly widened about the middle internally. Anterior and posterior tibiæ setose, the middle spinose and setose. Anterior tarsi strongly dilated in both sexes; middle and posterior slender, the joints decreasing in length to the 4th; posterior with the 1st joint much longer than the 2nd, the 5th a little longer than the 3rd and 4th together.

The genus is found throughout the world except the American continent, under stones in damp places.

Key to the Species.

1. Ferruginous-red or reddish-brown species. 2.
 Reddish - testaceous species. Length
 7 mm. *parviceps* Fauv., p. 218.
2. Elytra longer than the thorax. Length
 6 mm. *longipennis*, sp. n., p. 219.
 Elytra as long as the thorax. Length
 7 to 9 mm. 3.
3. Larger and more robust. Length 9 mm. *robustus* Kr., p. 217.
 Smaller and narrower. Length 7 mm. *indicus* Kr., p. 218.

795. *Dolicaon robustus*.

Dolicaon robustus Kr.*, Arch. Naturg. xxv, 1859, i, p. 117.

Robust, shining reddish-brown, the elytra redder. Antennæ red. Legs reddish-yellow. Length 9 mm.

Head transverse, subquadrate, as broad as the thorax, the posterior angles briefly rounded, smooth on the middle of the disc, elsewhere rather finely and not very closely punctured, the punctures finely umbilicate. Antennæ with the 3rd joint much longer than the 2nd, 4th to 6th a little longer than broad, 7th to 10th moniliform. Thorax a little longer than broad, a little narrowed behind, the sides straight, the anterior angles briefly, the posterior more broadly rounded, the anterior border truncate, along the middle rather broadly impunctate, elsewhere punctured like the head. Elytra as long as and a little broader than the thorax, more closely, scarcely more finely punctured, finely yellow pubescent. Abdomen very finely, rather closely punctured and pubescent.

Tranquebar. Also in Java, Sumatra, and Kei Island.

796. *Dolicaon indicus*. (Fig. 84.)

Dolicaon indicus Kr., Arch. Naturg. xxv, 1859, i, p. 118.

Dolicaon angolensis Qued., Berl. Ent. Zeit. xxv, 1881, p. 294.

Dolicaon castaneus Epp., D. E. Z. 1885, p. 114.

Dolicaon vicinus Kr., Arch. Naturg. xxv, 1859, i. p. 118.

Only differs from the preceding in the smaller (7 mm.) size and narrower build, and the more finely and more closely punctured head and thorax.

♂ : 6th ventral segment very narrowly, very deeply excised, the margin of the excision finely carinate and parallel.

Ceylon. India : Dehra Dun. Also in China, East and West Africa.

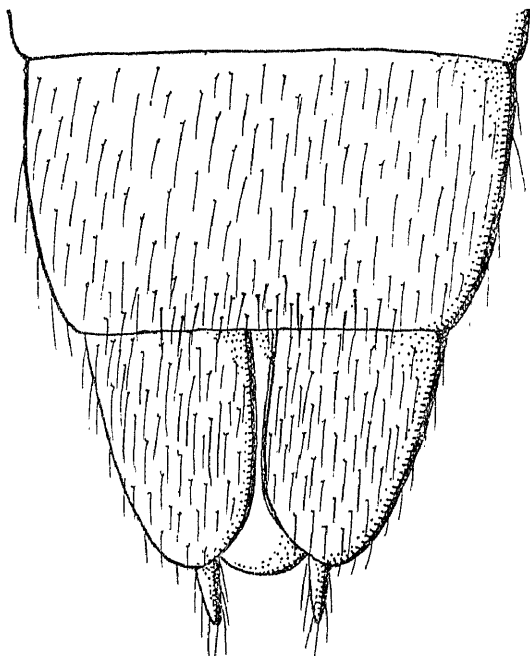


Fig. 84.—*Dolicaon indicus*, apex of abdomen of ♂ ; ventral surface.

797. *Dolicaon parviceps*.

Dolicaon parviceps Fauv., Rev. d'Ent. xiv, 1895, p. 234.

Narrow, rather convex, shining reddish-testaceous, closely yellow pubescent, distinguished from all by the small head ; palpi, 1st joint of the antennæ, and legs testaceous ; much smaller than *D. indicus*, narrow, of paler colour ; head much smaller, short, transverse, the base truncate, almost parallel

behind the eyes, the posterior angles a little obtuse, sparingly and more finely punctured; thorax rather longer and broader than the head, yet more finely and sparingly punctured; elytra shorter, subquadrate, more finely and closely punctured; abdomen scarcely more closely punctured; wings iridescent white.

♂: 6th † ventral segment very broadly, scarcely perceptibly emarginate; 7th † with very long, narrow, parallel incision, the margins keeled. Length 7 mm.

Burma: Pegu; Palon, viii., ix. (*L. Fea*) (ex *Fauvel*).

798. *Dolicaon longipennis*, sp. n.

Similar to *D. indicus* in build and colour, but differs in the smaller size (6 mm.) and longer elytra, which are a little longer than the thorax as measured from the base; the fore-parts are also more closely punctured.

India (without further indication).

Genus CEPHALOCHÆTUS Kr.

Cephalochetus Kr., Arch. Naturg. xxv, 1859, i, p. 122.

Cephalochetus Gemm. et Har., Cat. Col. ii, 1868, p. 616.

Calliderma Motsch., Bull. Mosc. xxxi, 1858, ii, p. 653; Fauv., Abeille, v, 1868-69, p. 491; id., Rev. d'Ent. xiv, 1895, p. 235 (præocc.).

Elongate species. The head oblong, the eyes moderate, placed posteriorly, temples wanting, the base arcuate or obliquely truncate to the rather narrow neck; the sides in front of the eyes parallel, deeply sulcate for the reception of the first joint of the antennæ, which are strongly geniculate, behind in the middle with a large, deep, more or less rhomboidal fossa. Gular sutures fine, narrowly separated and parallel in the posterior half. Labrum strongly transverse, the anterior margin gently rounded, in the middle with a small triangular emargination. Mandibles long, slender, curved, pointed, and prominent, each with a bicuspid tooth at the middle, the cusps sharp. Maxillæ with the inner lobe subtriangular, densely ciliate internally, the outer subquadrate, densely ciliate at the apical border. Maxillary palpi elongate, the 1st joint very small, 2nd and 3rd elongate, equal, lightly thickened at the apices, the 4th wanting ‡. Mentum short, transverse, truncate in front. Tongue broad, membranous, rounded in front, in the middle with a triangular notch. Paraglossæ well developed, ciliate, not extending beyond the tongue. Labial palpi 3-jointed, the 1st joint small and short, 2nd much longer and stouter, the 3rd much narrower, scarcely half as long as the 3rd,

† 5th and 6th in our numeration.

‡ I am unable to detect a 4th joint as described by Kraatz.

pointed. Thorax elongate, widest towards the front and then obliquely rounded to the neck, on either side of the middle with a raised, more or less sinuate line. Prosternum long, its process broad, keeled along the middle, and produced above the coxæ. Epimera small, triangular, distinctly separated from the epipleura by a fine keel, the stigma concealed. Mesosternal process short, acute, free, the coxæ contiguous. Abdomen keeled below at the middle of the base; anal styles prominent. Legs moderate, the anterior femora scarcely thickened. Tibiæ pubescent. Anterior tarsi simple in both sexes. Anterior tarsi with the 1st joint a little longer than 2nd, 2nd to 4th short, equal, 5th longer and stouter than the 4th, the claws stout, curved, pointed. Middle and posterior with the 1st joint longer than the 2nd, 2nd to 4th gradually decreasing in length, 5th longer and stouter, the claws stout. Winged. The genus frequents the banks of streams.

Key to the Species.

- | | | |
|--|----|---|
| 1. Thorax (except for the raised lines in some species and the extreme anterior margin) with uniform sculpture | 2. | |
| Thorax practically impunctate on the posterior third, the rest of the surface (except the raised lines) covered with irregular more or less superficial punctures, the interspaces shining | | <i>aspericollis</i> Fauv., p. 224. |
| 2. Thorax entirely red | | <i>rufus</i> Cam. var. <i>fusciceps</i> , |
| Thorax in greater part black or pitchy . . | 3. | [n., p. 223. |
| 3. Lateral lines of thorax strongly shining, entire | | <i>brunneus</i> Motsch., p. 220. |
| Lateral lines of thorax not or scarcely shining, more or less obsolete except in front and behind | 4. | |
| 4. Larger (7 mm.). Fovea of vertex opaque, coriaceous | | <i>kraatzii</i> Fauv., p. 222. |
| Smaller (4 to 4.25 mm.). Fovea of vertex shining, smooth | 5. | |
| 5. Thorax with the lateral lines united to each other in front and to the median keels behind | | <i>indicus</i> Kr., p. 221. |
| Thorax with the lateral lines not united in front or to the median keels behind. | | <i>elegans</i> Kr., p. 222. |

799. *Cephalochætus brunneus*.

Calliderma brunnea Motsch., Bull. Mosc. xxxi, 1858, ii, p. 653.

Blackish; the head along the middle and the abdomen more shining, the latter with the basal segments reddish-brown, the extreme base of the elytra obscurely reddish. Lateral and median keels of the thorax shining. Antennæ and legs yellow, the former with the last five or six joints lighter. Length 5 mm.

Head longer than broad, as wide as the thorax, the sides parallel before the eyes, slightly rounded and strongly constricted to the neck, eyes prominent. Vertex with a large, deep, lozenge-shaped fovea continued forwards as a deep sulcus, which bifurcates in front to enclose a small smooth triangular space; between the lateral angle of the fovea and the eye with an oblique sulcus, the fovea, sulci, and their immediate vicinity shining; finely and not closely punctured, the sides in front strongly coriaceous and more opaque; pubescence sparing and rather coarse. Antennæ with the 1st joint very long, about half as long as the rest, 2nd to 6th elongate, decreasing in length, 7th and 8th short, oval, 9th and 10th about as long as broad, 11th short, oval. Thorax much longer than broad, widest at the rounded anterior angles, the sides from thence strongly retracted and slightly sinuate to immediately in front of the base, where they are suddenly constricted, forming a right angle with the truncate base, the anterior border strongly and obliquely narrowed to the neck; disc with two fine, sinuate, elevated shining lines joined in front and immediately before the base; in the middle at the base with two short elevated shining keels separated by a narrow sulcus; the extreme base, anterior margin, and lines smooth and shining, the rest of the surface very closely, moderately finely punctured, opaque, nearly glabrous. Elytra as long as and a little broader than the thorax, parallel, very closely but less finely punctured, nearly glabrous, dull. Abdomen in front about as strongly, but less closely punctured than the elytra, behind more finely and more closely. Anal styles yellow, stout, pointed, slightly curved upwards. ♂: 6th ventral segment narrowly, acutely excised; 5th broadly and slightly emarginate on each side, the border between broadly rounded.

Ceylon: Belligam. Also in the Malay Peninsula and widely distributed in the Oriental Region.

800. *Cephalochætus indicus*.

Cephalochætus indicus Kr.*, Arch. Naturg. xxv, 1859, i, p. 124.

Head rather shining, black or pitchy; thorax pitchy-black, dull, the anterior margin more broadly, the posterior narrowly, reddish; elytra pitchy-black, dull, the extreme base reddish; abdomen more shining, blackish, the base and apex more or less reddish. Antennæ pitchy, the last five joints yellowish. Legs yellow. Length 4.25 mm.

Differs from *C. brunneus* in the smaller size, less shining, uniformly coriaceous head (except in the sulcus and fovea), more numerous asperate punctures, thorax broader with more

broadly rounded anterior angles, the more coriaceous sculpture, the dorsal lines of the thorax not shining (but united with each other in front and with the median keels behind as in *brunneus*), the much shorter, scarcely shining median keels, the elytra with coriaceous sculpture like the thorax, and the finer puncturation of the abdomen.

♂: 6th ventral segment deeply excised.

Ceylon. Appears to be widely distributed in the Oriental Region.

801. *Cephalochætus elegans*.

Cephalochætus elegans Kr.*, Arch. Naturg. xxv, 1859, i, p. 123, tab. ii, fig. 7.

Head dark reddish-brown, coriaceous but moderately shining, thorax dull, pitchy-black, the base very narrowly, the sides in front from the anterior angles more broadly reddish; elytra dull pitchy-black, the scutellum and extreme base reddish; abdomen more shining, brown, the base reddish. Antennæ with the 1st joint testaceous, 2nd to 4th pitchy, the rest wanting (but with yellow apex according to Kraatz). Legs reddish-yellow. Length 4 mm.

Differs from *C. indicus* in the smaller size, different colour, less distinct thoracic lines, the lateral of which are not united to each other in front nor with the median keel behind, the latter more finely sulcate, very short and scarcely shining. Head finely coriaceous (except in the sulcus and fovea and at the base), with a few fine setiferous punctures; fovea of vertex lozenge-shaped, deep, shining, the median groove continuous with it. Thorax densely coriaceous, on either side with an obscure elevated line, more evident in front and behind, scarcely shining, in the middle before the base with two short scarcely shining keels separated by a fine sulcus. Elytra sculptured like the thorax. Abdomen closely and finely punctured and pubescent.

♂: 6th ventral segment excised; 5th subtriangularly emarginate, the area in front of the emargination smooth.

Ceylon.

802. *Cephalochætus kraatzii*.

Calliderma kraatzii Fauv.*, Rev. d'Ent. xiv, 1895, p. 235.

Double the size of *C. elegans*, the antennæ much thicker, the 1st joint much less slender at the base, the 6th to 9th longer; head subparallel, eyes less prominent, larger, the intra-ocular fovea larger, opaque, alutaceous, the crest bounding it behind reaching to the eyes; thorax large, subangulate before the middle, where it is nearly twice as wide as the head, in front and behind red, the former lighter, basal keel short, smooth; elytra a little longer; abdomen very shining, sparingly

pubescent, the punctures much stronger, rough and sparing. Length 7 mm.

♂: unknown.

Burma: Carin Ascivui Ghéou, 1400 to 1500 metres, iii. iv. (*L. Fea*) (ex *Fauvel*).

803. *Cephalochætus rufus* var. *fusciceps*, n. (Fig. 85.) (Plate II. fig. 7.)

Calliderma rufum Cam. Trans. Ent. Soc. Lond. 1918, p. 78.

Head moderately shining, pitchy-black; thorax opaque, red, the keels shining; elytra opaque pitchy-black, the scutellum

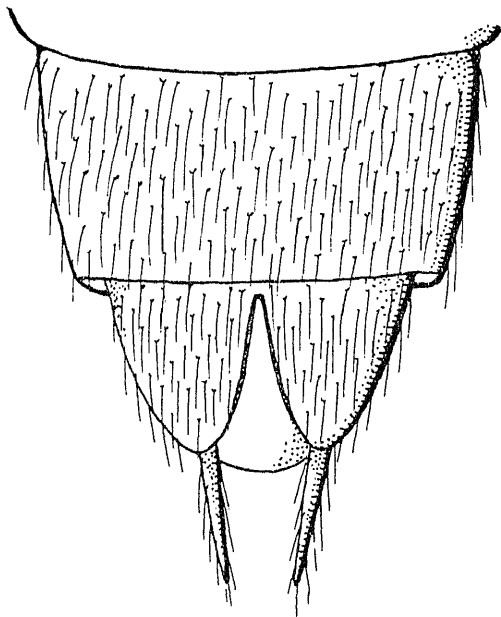


Fig. 85.—*Cephalochætus rufus* var. *fusciceps*, apex of abdomen of ♂; ventral surface.

and base narrowly yellowish-red, the posterior margin obscurely rufescent; abdomen red, shining, the 4th and 5th (visible) segments sometimes infusate. Antennæ and legs reddish-yellow. Length 5.75 mm.

Only differs from the type form in the dark head. From *C. elegans* it differs in the colour, larger size, larger eyes, strongly shining ends of the lateral thoracic lines, much longer, strongly shining median keels, and more coarsely punctured abdomen. Head shining, elongate,

distinctly longer than the breadth, including the eyes, the sides parallel in front of these; temples small, strongly rounded and passing insensibly into the base; the vertex posteriorly with a deep semicircular impression, from which on either side a sulcus passes outwards to the orbit, and another, much wider behind, forwards, nearly reaching the apex of the broad, smooth, triangular space between the antennal tubercles; this space, the sulci, and the basal impression glabrous and highly polished, the rest of the surface in front of the orbital sulci coriaceous, with a few large, superficial, setiferous punctures; the surface behind the orbital sulci and the temples without ground sculpture, but with obsolete setiferous puncturation. Antennæ with the 1st joint as long as the five following joints together, the 2nd to the 5th longer than broad, gradually decreasing in length, the 6th and 7th moniliform, the 8th to 10th slightly transverse, 11th short, oval. Thorax opaque, a little longer than broad, slightly broader than the head, widest just before the middle, the sides obtusely angulate at this point, from thence rounded and converging anteriorly, sinuate and more strongly converging posteriorly; disc in the middle line behind with a short, shining, longitudinally sulcate carina, and on either side with a sinuated, elevated line extending from the posterior to the anterior margins, but not coalescing either with them or with the median carina; the extreme ends of these lines are shining, and, except for these and the median carina, the whole of the surface is opaque, densely and finely punctured; the sides with a few setæ; the lines on the disc are so curved as to resemble the outline of a lyre. Scutellum shining, impunctate. Elytra about as long as the thorax, a little longer than broad, not quite so dull as the thorax, and more obscurely coloured; densely and closely, but less finely punctured than the thorax. Abdomen pretty closely and moderately coarsely punctured, especially at the bases of the segments, more finely punctured posteriorly; pubescence rather long, but not dense; anal styles testaceous, slightly curved upwards.

♂: 6th ventral segment with deep, narrow, triangular excision, the margins of which are finely bordered.

Siwaliks: Nakraunda. The type form is found in Singapore.

804. *Cephalochætus aspericollis*.

Calliderma aspericolle Fauv.*, Rev. d'Ent. xiv, 1895, p. 236.

A little larger than *C. brunneus*, the head broader, shining above, sparingly and strongly punctured, the fossa triangular; thorax shorter and broader, shining, the sides more strongly angulate, the keels rather broad and very shining, the rest of the surface covered with close and very irregular punctures,

except the posterior third, the interspaces shining, the front more narrowly reddish, the median basal keel much longer, reaching the level of the middle, and sulcate; the extreme base of the elytra and scutellum shining red; abdomen more shining, red, the 4th and 5th segments blackish, more sparingly punctured and pubescent. Nearest *C. rugicollis* Cam., but larger and broader, the eyes smaller, the antennæ stouter, the thorax differently coloured, but with very similar sculpture, the abdomen much less finely punctured. Length 6.5 mm.

♂: 6th ventral segment deeply triangularly excised, the excision much narrowed and parallel-sided towards the apex; 3rd with a black coriaceous area in the middle extending from the base nearly to the posterior margin.

Burma: Carin Asciiui Cheba, 1200 to 1300 metres, i.; Carin Asciiui Ghécu, 1400 to 1500 metres, iii., iv. (*L. Fea*).

Genus CRYPTOBIUM Mannerh.

Cryptobium Mannerh., Brach. 1830, p. 38; Er., Käf. Mark. Brand. 1837-39 (1839), p. 500; id., Gen. Spec. Stenb. 1839-40, p. 561; Lacord., Gen. Col. ii, 1854, p. 89; Kr., Naturg. Ins. Deutsch. ii, 1856-58, p. 694; Jacq. du Val., Faun. Gall. ii, 1857-59, p. 42; Thoms., Skand. Col. ii, 1860, p. 201; Fauv., Faun. Gallo-Rhén. iii, 1872, p. 364; Sharp, Trans. Ent. Soc. Lond. 1876, p. 210; id., B. C. A. i, 2, 1882-87 (1885), p. 506; Muls. et Rey, Ann. Soc. Linn. Lyon, xxiv, 1877, p. 4; Lynch, Bol. Ac. Cord. vii, 1884, p. 202; Ganglb., Käf. Mitt. Eur. ii, 1895, p. 495; Casey, Trans. Ac. St. Louis, xv, 1905, p. 27.

Subgen. *Aderobium* Casey, Trans. Ac. St. Louis, xv, 1905, pp. 23, 28.

Subgen. *Astenobium* Bernh., D. E. Z. 1911, p. 411.

Subgen. *Biocrypta* Casey, Trans. Ac. St. Louis, xv, 1905, pp. 26, 51.

Subgen. *Cryptobiella* Casey, Trans. Ac. St. Louis, xv, 1905, pp. 26, 29.

Subgen. *Eucryptina* Casey, Trans. Ac. St. Louis, xv, 1905, pp. 24, 28.

Subgen. *Gastrolobium* Casey, Trans. Ac. St. Louis, xv, 1905, p. 23, 31.

Subgen. *Hesperobium* Casey, Bull. Calif. Ac. 1886, p. 33; id., Trans. Ac. St. Louis, xv, 1905, pp. 24, 33.

Subgen. *Homæotarsus* Hochh., Bull. Mosc. xxiv, 1851, iii, p. 34; Lacord., Gen. Col. ii, 1854, p. 90; Kr., Naturg. Ins. Deutsch. ii, 1856-58, p. 665; Fauv., Bull. Soc. Linn. Norm. x, 1864-65, p. 24; Kr., B. E. Z. x, 1866, pp. 414, 415; Fauv., Abeille, v, 1868-69, p. 490; id., Faun. Gallo-Rhén. iii, 1872, p. 364; Casey, Trans. Ac. St. Louis, xv, 1905, p. 24; (*Spirosoma*) Motsch., Bull. Mosc. xxxi, 1858, iii, p. 206.

Subgen. *Lissobiops* Casey, Trans. Ac. St. Louis, xv, pp. 25, 50.

Subgen. *Monocrypta* Casey, Trans. Ac. St. Louis, xv, 1905, pp. 27, 30.

Subgen. *Pycnocrypta* Casey, Trans. Ac. St. Louis, xv, 1905, pp. 25, 28.

BIOLOGY.—Wickham, Bull. Lab. Nat. Hist. Univ. Iowa, ii, p. 341, pl. 9, f. 16.

More or less elongate, cylindrical species, with oval, oblong, or subtriangular head and narrow more or less cylindrical thorax. Readily distinguished from all the Indian *Pederinae* except *Cephalochætus* by the flagellate antennæ, the 1st joint being long and forming a scape; from *Cephalochætus* it is distinguished by the absence of raised lines on the thorax and by

the presence of spines on the intermediate tibiæ, etc. Labrum short, transverse, narrowly excised in the middle nearly to the base. Mandibles slender, curved, pointed, each usually with a rather large, pointed tooth in the middle and a bicuspid behind. Maxillary lobes densely ciliate. Maxillary palpi with the 1st joint very small, 2nd elongate, curved, slightly thickened towards the apex, 3rd of equal length and similarly thickened, 4th small, conical. Labium transverse, trapezoidal. Tongue broad, membranous, divided nearly to the base by a sub-triangular excision into two rounded lobes. Paraglossæ ciliate and extending beyond the tongue. Labial palpi 3-jointed, the 1st joint small, 2nd elongate and a little thicker, 3rd narrower and shorter. Gular sutures usually separated throughout and parallel. Sides of head before the eyes with a groove for the reception of the 1st joint of the geniculate antennæ. Neck stout. Prosternum keeled, its process short but acute. Pronotal epipleura rather narrow, separated from the epimera by a fine raised line, these not covering the stigma. Mesosternum short, keeled, its process short and sharp, produced but little between the coxæ, these narrowly separated. Metasternum rather short, its process very short. Abdomen keeled at the base below, the sides margined above. Elytral epipleura with or without a fine keel †. Legs rather slender; the coxæ elongate; femora not thickened; tibiæ setose, the middle with a few spines; tarsi 5-jointed, the anterior simple; the 1st joint in all longer than the 2nd, 3rd and 4th decreasing in length; claws slender.

The species are distributed throughout the world, and are found on the banks of rivers, marshes, etc.

Several subgenera have been founded, but they are not made use of in the following Key.

Key to the Species.

- | | | |
|--|-----|----------------------------------|
| 1. Species entirely black, at most with the posterior margin of the last two segments obscurely reddish..... | 2. | |
| Species not entirely black, at least with the thorax and abdomen brown..... | 15. | |
| 2. Head more or less dilated behind..... | 3. | |
| Head oval or oblong, not dilated behind. | 6. | |
| 3. Larger (12.5 to 16 mm.). Thorax broader. | 4. | |
| Smaller (9 to 10 mm.). Thorax narrower, cylindrical..... | 5. | |
| 4. Larger (16 mm.). Elytra as long as the thorax..... | | <i>ocypoides</i> Champ., p. 228. |
| Smaller (12.5 mm.). Elytra a little longer than the thorax..... | | <i>gastrale</i> Fauv., p. 229. |
| 5. Head and thorax shining; abdomen rather coarsely and closely punctured.. | | <i>semiopacum</i> Epp., p. 229. |
| Head and thorax subopaque; abdomen very finely punctured..... | | <i>elephas</i> Fauv., p. 230. |

† In all the Indian species known to me this keel is present.

6. Head with the sculpture consisting of larger and smaller punctures *rostri* Schub., p. 249.
- Head with uniform sculpture..... 7.
7. Head with the fundus of the punctures distinctly coriaceous *sharpi* Fauv., p. 233.
- Head with the punctures more or less umbilicate..... 8.
8. Larger (12 to 14 mm.)..... 9.
- Smaller (5 to 10 mm.) 10. [p. 234.
9. Larger (14 mm.), thorax narrower..... *cyliandroderum* Champ.,
- Smaller (12 mm.), thorax broader..... *spectabile* Kr., p. 233.
10. Thorax with shining *elevated* median keel throughout. Head with fine longitudinal, confluent rugæ, the interspaces with fine umbilicate punctures. Length 5·5 mm..... *bengalense*, sp. n., p. 244.
- Thorax with normal smooth median line. Head normally punctured..... 11.
11. Thorax very narrow, cylindrical, about half as broad as the elytra. Length 5·5 mm..... *fossigerum* Kr., p. 236.
- Thorax broader 12.
12. Head more oval, the post-ocular region gently rounded and retracted 13.
- Head more quadrate, the post-ocular region straight. Length 7·5 mm. *waageni* Bernh., p. 232.
13. Larger and more robust. Length 10 mm. *nilgiriense* Cam., p. 234.
- Smaller and narrower. Length 8 to 8·5 mm..... 14.
14. Abdomen densely and finely punctured. *nisus* Fauv., p. 235.
- Abdomen less densely and less finely punctured [n., p. 232.
15. Species entirely testaceous..... *nigrobadium* var. *unicolor*,
- Species otherwise coloured..... *fulvescens* Motsch., p. 231.
16. Elytra unicolorous..... 16.
- Elytra otherwise 17.
17. Elytra red..... 21.
- Elytra black..... 18.
18. Head red..... *filum* Kr., p. 231.
- Head black..... *abdominale* var. *indicum*
19. Thorax red..... 19. [Kr., p. 244.
- Thorax black 20. [Motsch., p. 244.
20. Abdomen black, the last segment reddish. *abdominale* var. *rufipenne*
- *nigrobadium* Epp., p. 232.
- *semirufum* Bernh., p. 232.
21. 22.
- Elytra otherwise 23.
22. Larger (10 mm.). 5th (visible) abdominal segment black *bernhaueri* Cam., p. 239.
- Smaller (6·5 mm.). 5th (visible) abdominal segment red [p. 243.
- *abdominale* Motsch.,
23. Elytra black, the postero-external angles yellow *extraneum* Fauv., p. 235.
- Elytra otherwise 24.
24. Elytra red, the base and lateral margins almost to the postero-external angles black..... [deum Epp., p. 244.
- Elytra otherwise *abdominale* var. *discoi-*
25. Posterior third or more of the elytra sharply red 25.
- Elytra narrowly red behind, or more broadly but indeterminately reddish .. 26.
- 29.

26. Head with a double puncturation of larger and smaller punctures Head densely and uniformly punctured.
27. Puncturation before the level of the eyes very sparing. Coxæ black..... Puncturation before the level of the eyes rather close. Coxæ reddish-brown. Thorax without longitudinal impunctate area on each side *paricolor* Epp., p. 247.
28. Larger (10 mm.). Abdomen entirely black; posterior half of elytra red.... Smaller (9 mm.). Abdomen with the posterior margin of the last two segments narrowly reddish; posterior one-third of elytra red *sikkimense*, sp. n., p. 240.
29. Head with double puncturation of larger and smaller punctures..... Head densely and uniformly punctured . *ceylanense* Kr., p. 247.
30. Larger (11 mm.). Head distinctly widened behind; anterior coxæ dark..... 30.
- Smaller (8 to 9 mm.). Head scarcely widened behind; anterior coxæ yellowish-red 31.
31. Posterior margin of elytra narrowly, indeterminate reddish; coxæ yellowish-red [*tum* Cam., p. 239.
- Posterior margin of elytra narrowly, sharply red or reddish-yellow *bernhaueri* var. *distinctum* Motsch., p. 247.
32. Larger (9 to 13 mm.) *sanguinolentum* Motsch., p. 244.
- Smaller (6.5 mm.) 32.
33. Humeral angles distinctly reddish-yellow; smooth central line of thorax distinct throughout 33.
- Humeral angles concolorous 34.
34. Head scarcely widened behind, more finely punctured; elytra more broadly punctured; head and thorax more finely punctured behind, less finely punctured; elytra very narrowly punctured behind..... *humeralis* Cam., p. 241.
35. Black; head broader; puncturation of head and thorax coarser 34.
- Pitchy-red; head narrower; puncturation of head and thorax finer *capitale* Cam., p. 237.
- mutator* Fauv., p. 236.
- marginatum* Motsch., p. 240.
- kumaonense* Champ., p. 246.

805. *Cryptobium ocyppoides*.

Cryptobium ocyppoides Champ.*, E. M. M. Ivii, 1921, p. 180.

Broad, robust, black, but little shining. Antennæ reddish. Legs brownish-testaceous, the tibiæ and tarsi pitchy. Length 16 mm.

Differs from *C. nissus* in the larger size, more oval, rather less coarsely punctured head, broader, less shining, more densely punctured thorax, much more closely and less finely punctured abdomen. Head broad, oval, a little dilated behind the eyes, a little wider than the thorax, the posterior angles broadly rounded with the base, the puncturation moderately coarse, close and rugose, in front more or less longitudinally confluent.

Mandibles 3-dentate. Thorax a little longer than broad, the sides but little retracted behind, the puncturation a little coarser than that of the head and equally close, at the base in the middle with a smooth median line, obsolete and interrupted in front. Elytra about as long as the thorax, more coarsely punctured. Abdomen moderately finely, very closely punctured throughout, finely and closely pubescent.

♂: 6th ventral segment very deeply, narrowly, triangularly excised.

Kumaon: River Sarda Gorge, alt. 1500 feet (*H. G. Champion*).

806. *Cryptobium gastrale*.

Cryptobium gastrale Fauv.*, Rev. d'Ent. xiv, 1895, p. 237.

Black, the thorax more shining than the rest of the body, the posterior margin of the last two abdominal segments very narrowly reddish, rarely concolorous, the anal styles red. Antennæ red, the last four joints paler. Legs red. Length 12.5 mm.

Head broader than the thorax, scarcely shining, oval, the eyes small, the post-ocular region rounded and a little dilated, the front between the shining antennal tubercles depressed, smooth anteriorly, the rest of the front with rather large, close, superficial, confluent punctures, elsewhere rugose, closely covered with rather coarse umbilicate punctures. Antennæ with all the joints longer than broad, gradually decreasing in length, the 10th and 11th oval, subequal. Thorax a little longer than broad, with the sides (viewed from above) but little retracted behind, along the middle with a smooth impunctate space finely sulcate behind, about as coarsely, but less closely punctured than the head, not rugose. Elytra broader and about a fourth longer than the thorax, a little shining, closely, rather coarsely and rugosely punctured. Abdomen a little shining, rather finely and closely punctured, a little more finely and sparingly behind.

According to Fauvel the male has the 6th ventral segment rather broadly, not very deeply excised, the excision broadly margined, the apex rounded, in front of the excision with a smooth narrow impression; 5th scarcely emarginate, in front with a short, almost smooth impression.

Burma: Bhamo, vii., viii., 1885; Rangoon, xii. (*L. Fea*). Also in Cochin China.

807. *Cryptobium semiopacum*.

Cryptobium semiopacum Epp., D. E. Z. 1895, p. 402.

Cryptobium biforme Fauv.*, Rev. d'Ent. xiv, 1895, p. 237.

Black, the head and elytra less shining than the thorax and abdomen, the last two segments of the latter with the

posterior margin very narrowly and obscurely reddish ; anal styles reddish. Antennæ red. Legs yellow, the tibiæ infusate. Length 10 mm.

Head subtriangular, broader than the thorax, distinctly narrowed in front, the post-ocular region dilated, the posterior angles broadly rounded, with close rugose umbilicate puncturation except in front, where the punctures are less close and less deep. Antennæ with all the joints longer than broad, gradually decreasing in length. Thorax longer than broad, the sides straight when seen from above and a little retracted behind, along the middle with a rather broad, smooth, shining space, much more coarsely and less closely punctured than the head. Elytra as long as and a little broader than the thorax, more closely, rugosely, scarcely less coarsely punctured. Abdomen closely, moderately coarsely punctured in front ; more finely and sparingly behind.

According to Fauvel an apterous form with shorter elytra occurs.

♂ : 6th ventral segment narrowly and deeply excised, the incision feebly margined ; 5th scarcely emarginate, in front of the emargination with a narrow, feebly impressed smooth space.

Burma : Rangoon, v. ; Bhamo, vii. ; Prome, xii. ; Carin Cheba ; Carin Asciuii Ghécu, alt. 900 to 1500 metres ; Pegu ; Palon ; Tenasserim ; Kawkaireik (*L. Fea*).

308. *Cryptobium elephas*.

Cryptobium elephas Fauv.*, Rev. d'Ent. xxiii, 1904, p. 54.

Black, subopaque, the posterior margin of the last two abdominal segments very narrowly reddish-yellow. Head subtriangular ; thorax with median smooth line very narrow. Antennæ red. Legs pale yellow, the tibiæ slightly infusate. Length 9 mm.

Differs from *C. semiopacum* in the puncturation, narrower build, narrower, longer head, subopaque thorax, etc.

Head subtriangular, widened behind, longer and broader than the thorax, the posterior angles rather broadly rounded, densely, rather finely, subrugosely punctured, only the extreme front margin smooth. Antennæ with all the joints longer than broad. Thorax with the sides straight, a little retracted behind, along the middle with a very narrow, smooth, shining line which behind is a little dilated, as closely but much more coarsely punctured than the head. Elytra a little longer and broader than the thorax, as closely but a little less coarsely punctured. Abdomen finely and closely punctured in front, more sparingly behind.

♂ : 6th ventral segment with rather broad triangular excision.

Nilgiri Hills.

809. *Cryptobium filum*.

Cryptobium filum Kr.*, Arch. Naturg. xxv, 1859, i, p. 119.

Narrow, elongate; head black, subopaque; thorax brown, moderately shining; elytra black or pitchy, moderately shining; abdomen dark brown, the 4th and 5th (visible) segments blackish. Antennæ and legs yellowish-red. Length 7 mm.

Head subtriangular, widened behind, broader than the thorax, the posterior angles briefly rounded, the eyes very small; very closely covered with umbilicate punctures which towards the base are more or less transversely confluent, forming more or less interrupted transverse rugæ. Antennæ with the 7th to 10th joints slightly transverse. Thorax cylindrical, closely covered with umbilicate punctures, with a narrow smooth line in the middle throughout. Elytra a little longer and broader than the thorax, as closely but less coarsely punctured. Abdomen rather finely and rather closely punctured, on the 5th segment the punctures are more or less elongate, forming striæ.

♂: 6th ventral segment deeply, triangularly excised. The foveæ on the 2nd (3rd of Kraatz) segment are not male characters, as they are also present in the female.

Ceylon. Also in Singapore, Sumatra, Borneo.

810. *Cryptobium fulvescens*.

Spirosoma fulvescens Motsch., Bull. Mosc. xxxi, 1858, p. 207, pl. i, fig. o.

Cryptobium testaceum Kr.*, Arch. Naturg. xxv, 1859, i, p. 120.

Narrow, elongate, parallel, moderately shining, the head rather less so, entirely ferruginous-red. Antennæ red. Legs yellow. Length 7 mm.

Very similar in build to *C. filum*, but more depressed. Head oblong, parallel-sided, slightly wider and almost as long as the thorax, with close, moderately fine, superficial, umbilicate puncturation, the front margin smooth, about the sides and base with the punctures more or less confluent. Antennæ with the penultimate joints short, oval. Thorax cylindrical, at the middle of the base with a short keel continued forwards nearly to the anterior margin as a fine impunctate line, the puncturation about the same size as that on the head but deeper, equally close but not confluent. Elytra a little longer and a little broader than the thorax, the puncturation very similar; epipleura with a fine raised keel. Abdomen finely and closely punctured.

Ceylon.

811. *Cryptobium nigrobadium*.

Cryptobium nigrobadium Epp.*, W. E. Z. ix, 1890, p. 278.

Cryptobium nigrobadium var. *unicolor* Cam., Ceylon Journ. Sci. xiv, i, p. 115.

Elongate, depressed; head and abdomen black, the last segment reddish, moderately shining; thorax shining red; elytra shining brownish-red. Antennæ reddish-yellow, the penultimate segments lighter. Legs yellow. Length 7 to 8 mm.

Var. *unicolor*. Body entirely black.

Near *C. filum*, but differing in the colour, the narrower, oval head, the coarser puncturation throughout, and the more slender antennæ. Head oval, scarcely wider than the thorax, the eyes small, the posterior angles broadly rounded, with close, moderately coarse umbilicate punctures more sparing between the antennal tubercles, the front margin smooth. Antennæ with the penultimate joints scarcely longer than broad. Thorax cylindrical, scarcely retracted behind, less coarsely and less closely punctured than the head, impunctate along the middle. Elytra a little longer and broader than the thorax, closely, rugosely punctured. Abdomen closely and finely punctured, a little less closely towards the apex.

♂: 6th ventral segment deeply, triangularly emarginate.

Ceylon: Vavuniya. India: Nagpur. The variety is found at Vavuniya.

812. *Cryptobium semirufum*.

Cryptobium semirufum Bernh., D. E. Z. 1902, p. 32.

Black, shining; the thorax, elytra, 7th and 8th abdominal segments, and extreme apical margin of the head red; antennæ, mouth, and legs reddish-testaceous, thorax broad, strongly and closely punctured on either side. Length 9.5 mm.

Distinct by the colour and comparatively broad thorax. Head much longer than broad, coarsely and very closely punctured, shining. Antennæ rather long and slender, the penultimate joints not transverse. Thorax shining, as broad as the head, only a little narrower than the elytra, only about a third broader than long [? longer than broad], with rectangular anterior and rounded posterior angles, the sides parallel, smooth along the middle, on each side closely and more coarsely punctured than the head. Elytra longer than the thorax, shining. Abdomen shining, finely and closely punctured.

Ceylon: Bandarawela (ex *Bernhauer*).

813. *Cryptobium waageni*.

Cryptobium waageni Bernh., Ent. Blätt. 1915, p. 251.

Near *C. semirufum*, but differently coloured. Black, not very shining, the antennæ and palpi reddish, the former

somewhat infusate, the legs pale yellow. Head distinctly broader and shorter than in *semirufum*, the sides quite straight, more parallel, less broadly rounded behind and so more quadrangular. Thorax distinctly longer than in *semirufum*, the elytra shorter, only a little longer than the thorax. The head is fully as broad as the thorax. The two species scarcely differ in size. The male characters are very distinctive, the 6th ventral segment is divided by a deep and rather narrow triangular excision into two broad lobes, the apex of each rounded. Length 7.5 mm.

Burma : Pegu (ex *Bernhauer*).

814. *Cryptobium sharpi*.

Cryptobium sharpi Fauv., Rev. d'Ent. xiv, 1895, p. 238.

Cryptobium brunnipes Cam., Trans. Ent. Soc. Lond. 1914, p. 543.

Entirely black, rather dull. Palpi, 1st joint of antennæ, and femora reddish-testaceous, rest of antennæ, tibiæ, and tarsi infusate. Length 10 to 12 mm.

Near *C. spectabile*, but the head is a little narrower, the foreparts more finely punctured, and the male characters different. Head a little longer than broad, oval, a little broader than the thorax, not so broad as the elytra; temples long, slightly convergent posteriorly to the rounded posterior angles; punctures rather coarse, close and with distinctly coriaceous fundi, except on the front, which is finely wrinkled. Antennæ long, the 1st joint equal in length to the four following together, 2nd shorter than 3rd, 4th as long as 2nd, 5th to 10th all longer than broad, gradually decreasing in length, 11th oval, pointed, as long as broad. Thorax nearly cylindrical viewed from above, a little longer than broad, slightly narrowed posteriorly, anterior angles rectangular, posterior rounded; disc with smooth longitudinal median line throughout the whole length; puncturation coarse and umbilicate, less dense than on the head. Scutellum smooth, shining. Elytra a little longer than the thorax, with much finer puncturation, close and subrugose in character; pubescence fuscous, moderately dense. Abdomen finely and closely punctured throughout, rather densely covered with a fuscous pubescence.

♂ : 6th ventral segment with a triangular excision, the apex of which is rounded.

Burma : Bhamo; Senmigon (*Fea*). Bengal : Barwa; Dacca.

815. *Cryptobium spectabile*.

Cryptobium spectabile Kr., Arch. Naturg. xxv, 1859, i, p. 118.

Very near *C. sharpi*, but usually a little larger (12 mm.), with broader head and more coarsely punctured thorax, elytra, and

abdomen ; it is readily distinguished, however, from *sharpi*, by the puncturation of the head being more or less umbilicate, whereas in the latter species the fundus of each puncture is obviously coriaceous and the thorax more shining than the head and elytra.

♂: 6th ventral segment deeply triangularly excised, the surface in front smooth ; 5th with semicircular emargination, slightly impressed in the middle.

Northern India. Bengal : Chapra.

816. *Cryptobium cylindroderum*.

Cryptobium cylindroderum Champ.*, E. M. M. lxi, 1925, p. 107.

Elongate, robust, entirely black, the head, elytra, and abdomen but little, the thorax distinctly shining. Antennæ reddish-testaceous, the 3rd to 5th joints infusate. Legs reddish-testaceous. Length 14 mm.

Very near the European *C. chaudiroidi* Hochh., and only differs from it in the rather finer puncturation of the head and the obviously finer puncturation of the rest of the body ; from *C. sharpi* it differs in the more shining fore-parts (especially the thorax), less finely punctured head, narrower, more coarsely punctured thorax, more coarsely punctured elytra, and lighter legs. Head oval, a little wider than the thorax, very closely, moderately coarsely punctured, the punctures umbilicate except in front, where the surface is finely wrinkled and with a few scattered punctures. Mandibles tridentate, reddish-brown. Antennæ with the penultimate joints distinctly longer than broad. Thorax cylindrical, scarcely narrowed behind, along the middle with a rather broad impunctate space, rather closely and more coarsely punctured than the head. Elytra a little longer and a good deal wider than the thorax, closely, rugosely, moderately coarsely punctured. Abdomen finely and closely punctured, finely pubescent.

Kumaon : Ranikhet, alt. 6000 feet (*H. G. Champion*).

817. *Cryptobium nilgiriense*.

Cryptobium nilgiriensis Cam., Trans. Ent. Soc. Lond. 1914, p. 543.

Entirely black, the abdomen more shining than the fore-parts, these uniformly moderately shining. Antennæ red ; palpi, tibiæ, and tarsi reddish-yellow, the femora pale yellow. Length 10 mm.

Size of *C. elephas* Fauv. Differs from this species by the oval, not subtriangular head, the thorax less contracted behind, the more shining, more coarsely punctured head, and the less coarsely punctured thorax and elytra. Head

broad than the thorax, oval oblong, temples gradually rounded and narrowed to the base, with the posterior angles broadly rounded and with close, rather coarse umbilicate puncturation, the extreme front finely wrinkled; the antennæ shorter than in *C. elephas* Fauv., 1st joint as long as the three following together, 2nd about half as long as the 3rd, 4th to 6th longer than broad, 7th to 10th scarcely longer than broad, 11th short, oval. Thorax narrower than the head, about a fifth longer than broad, a little narrowed backwards from the middle (when viewed from above); puncturation as on the head, disc with smooth median line; pubescence fuscous, sparing. Elytra slightly longer and a little broader than the thorax, longer than broad, not quite as coarsely punctured as the thorax; distinctly pubescent. Abdomen moderately closely, finely punctured and pubescent.

♂: 6th ventral segment with narrow, deep, triangular excision, the apex rounded; 5th rather broadly, scarcely perceptibly emarginate.

Nilgiri Hills: Ochterlony Valley, alt. 3500 feet (*H. L. Andrewes*).

818. *Cryptobium nissus*.

Cryptobium nissus Fauv.*, Rev. d'Ent. xiv, 1895, p. 239.

Entirely black, rather shining. Head short, oval. Antennæ reddish-yellow. Legs yellow, the tibiæ scarcely infusate. Length 8 to 8.5 mm.

Very similar to *C. nigrobadium* var. *unicolor*, but the head a little broader, more closely and more finely punctured, the abdomen much more finely and closely punctured. Head oval, not dilated behind, a little broader than the thorax, very closely and moderately finely punctured. Antennæ rather short, but with all the joints longer than broad and gradually decreasing in length. Thorax (seen from above) cylindrical, scarcely narrowed behind, along the middle with a smooth shining line, the rest closely punctured like the head. Elytra scarcely longer than the thorax, about as coarsely but rugosely punctured. Abdomen very finely and closely punctured and pubescent throughout.

♂: 6th ventral segment narrowly, deeply, triangularly excised, the apex of the excision rounded.

Ceylon: Wackwella. Burma: Senmigion.

819. *Cryptobium extraneum*.

Cryptobium extraneum Fauv., Rev. d'Ent. xxiii, 1904, p. 55.

Black, moderately shining, the postero-external angle of the elytra narrowly yellow, the posterior margin of the 5th

and 6th abdominal segments narrowly and obscurely reddish. Antennæ reddish-yellow. Legs yellow. Length 7 mm.

Near *C. nesus*, but differs in the presence of a yellow spot on the elytra, narrower, more closely and more rugosely punctured head, more prominent eyes, narrower and a little more coarsely and more rugosely punctured thorax with narrower shining median line, elytra a little more strongly and more sparingly punctured, the abdomen more strongly and more sparingly punctured.

♂: 6th ventral segment with acute triangular excision, the apex rounded, the surface in front smooth; 5th longitudinally grooved along the middle throughout, at the middle of the posterior margin with sharp triangular spine, on either side feebly and broadly emarginate.

Bengal: Tetara. Nilgiri Hills.

820. *Cryptobium fossigerum*.

Cryptobium fossigerum Kr.*, Arch. Naturg. xxv, 1859, i, p. 120.

Pitchy-black, moderately shining. 1st joint of antennæ and base of 2nd and 3rd joints testaceous, the following infusate, the penultimate testaceous. Legs pale yellow. Length 5.5 mm.

A narrow species. Head wider than the thorax and almost as long, longer than broad, oblong, the sides behind the eyes parallel, the posterior angles rather broadly rounded, coarsely and closely punctured with a small shining plaque on the vertex between the rather prominent eyes and another in front. Antennæ with the 3rd joint a little longer than the 2nd, 4th to 6th longer than broad, gradually decreasing in length, the penultimate scarcely longer than broad. Thorax much longer than broad, cylindrical, in the middle with a narrow shining impunctate line throughout, the rest closely and more coarsely punctured than the head. Elytra a little longer and almost twice as broad as the thorax, slightly less coarsely punctured. Abdomen very finely and moderately closely punctured and pubescent.

♂: 6th ventral segment triangularly excised; 5th feebly emarginate, at the base with a deep, round, thickly pubescent fossa; 3rd and 4th smooth before the posterior margin and furnished with brush of longer erect hairs.

Ceylon. "East Indies."

821. *Cryptobium mutator*.

Cryptobium mutator Fauv.*, Rev. d'Ent. xiv, 1895, p. 236.

Black; head subopaque, the rest shining, elytra less so and with the posterior margin narrowly reddish; abdomen with

the posterior margin of the 5th and posterior half of the 6th segment reddish. Antennæ red. Legs with the femora yellow, the knees, tibiæ, and tarsi reddish-brown. Length 9.5 to 13 mm.

Head large, distinctly widened behind, longer and broader than the thorax, the eyes moderate, the posterior angles rather broadly rounded, closely, coarsely, rugosely punctured, the front between the antennæ alutaceous and finely wrinkled, the anterior margin smooth. Antennæ with all the joints longer than broad. Thorax subcylindrical, the sides a little sinuate and retracted behind, rather closely and coarsely punctured, along the middle with a smooth space. Elytra scarcely longer but broader than the thorax, less coarsely but rugosely punctured. Abdomen finely, rather closely punctured in front, more sparingly behind.

♂: 6th ventral segment deeply triangularly excised, the margins bordered; 5th feebly impressed along the middle, the posterior margin slightly angularly emarginate; 3rd and 2nd at the middle of the base with a small shining elevated plaque, with close short white hairs behind. According to Fauvel the size of the head and the sexual characters are less marked in small males.

Burma: Carin Ghéou; Carin Asciiui Ghéou, alt. 1300 to 1400 metres; Tienzo; Tenasserim; Meetan (*L. Fea*).

822. *Cryptobium capitale*. (Fig. 86.) (Plate II. fig. 9.)

Cryptobium capitalis Cam., Trans. Ent. Soc. Lond. 1924, p. 196.

Pitchy-black, scarcely shining, the posterior margin of the elytra, the posterior margin of 5th and whole of 6th abdominal segments reddish-testaceous; antennæ, palpi, and mandibles ferruginous; legs pale yellow, the knees and tarsi infusate. Length 11.4 mm.

Near *C. mutator* Fauv., but differs in the following respects: less shining, the head more finely punctured and the sides more parallel, the thorax narrower, more finely and closely punctured, the elytra more finely punctured with the posterior fifth testaceous, and the male characters. Head large, longer and broader than the thorax, oblong-ovate, only slightly widened behind the eyes, the posterior angles broadly rounded, the extreme front and antennal tuberosities shining and impunctate, the rest of the surface densely, moderately coarsely, rugulosely punctured, more finely but equally densely behind the eyes. Antennæ long and slender, the 3rd joint twice as long as 2nd, all the rest elongate, the 10th half as long as 9th, as long as 11th, mandibles bidentate, the posterior tooth of the left bifid at apex. Thorax pitchy, narrowed and feebly sinuate behind, rather more shining than the head, with a narrow,

smooth, impunctate median line posteriorly not extending beyond the middle and a small area on either side of the base shining and impunctate, the rest of the surface densely and more coarsely punctured than the head, more rugulose at the sides. Elytra distinctly longer and broader than the thorax, much longer than broad, the reflexed sides keeled, coarsely, rugosely punctured, the size of the punctures about

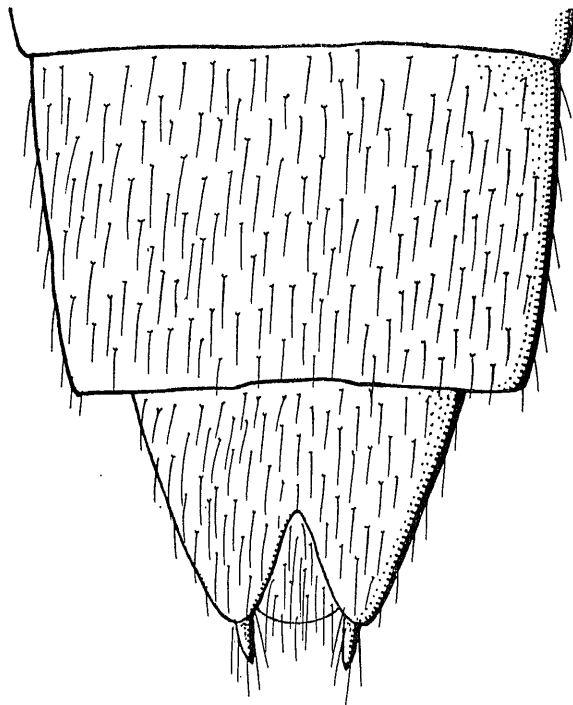


Fig. 86.—*Cryptobium capitale*, apex of abdomen of ♂ ;
ventral surface.

the same as those of the thorax. Abdomen rather shining, sometimes pitchy, finely and closely punctured, rather more sparingly behind.

♂ : 2nd and 3rd ventral segments each with a crescentic impression in the middle, open forwards and furnished with longer and more erect hairs than on the rest of the surface ; 6th triangularly impressed behind, moderately deeply and triangularly excised, the apex rounded.

Siwaliks : Mohan Rau ; Kheri Rau.

823. *Cryptobium bernhaueri*. (Fig. 87.) (Plate II. fig. 8.)*Cryptobium bernhaueri* Cam., Trans. Ent. Soc. Lond. 1924, p. 196.*Cryptobium bernhaueri* var. *distinctum* Cam., Trans. Ent. Soc. Lond. 1924, p. 197.

Black, shining, the elytra shining red with the basal third black. Head in both sexes strongly dilated behind; antennæ, palpi, and mandibles ferruginous; femora yellow, tibiæ and tarsi brown. Length 10 mm.

Var. *distinctum*. Elytra black, the posterior border narrowly red.

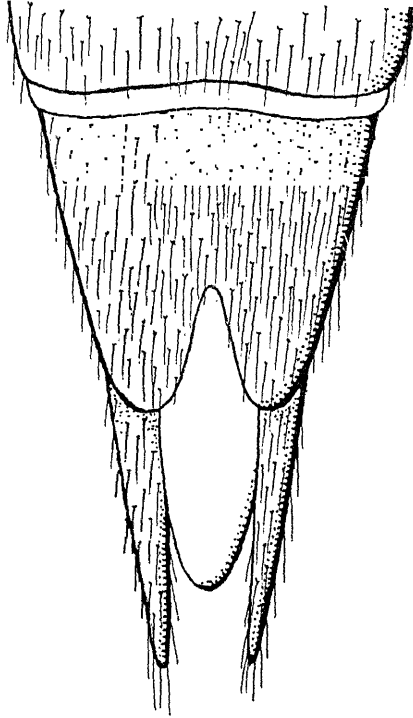


Fig. 87.—*Cryptobium bernhaueri*, apex of abdomen of ♂; ventral surface.

Head, in both sexes broader than the thorax, much dilated behind the eyes (especially in male), a little longer than broad, posterior angles broadly rounded, front depressed between the antennal tuberosities, somewhat uneven at the sides, finely and moderately closely punctured medially, the post-ocular area closely and moderately coarsely punctured, the disc with a double puncturation of larger and

smaller punctures rather closely placed, but becoming finer and more sparing towards the front, setose. Antennæ with 4th to 10th joints all longer than broad, gradually decreasing in length, the 11th shorter than 10th; mandibles bidentate. Thorax narrowed behind, with broad median impunctate space throughout, externally with a narrower impunctate area not reaching the anterior border and separated from the median space by a row of closely-set moderately large punctures, the rest of the surface except the posterior border rather coarsely and closely punctured. Elytra a little longer and broader than the thorax, closely, rather coarsely subrugulose punctured, the reflexed sides carinate. Abdomen moderately finely, rather closely punctured, more finely and sparingly behind.

♂: 5th ventral segment broadly and very feebly emarginate; 6th narrowly and deeply excised, the apex of the excision rounded, the sides bevelled.

Siwaliks: Nakraunda; Mohan Rau; Kheri Rau. Mussoorie district: Kolhu Khet; Keyarkuli. I have only met with the var. *distinctum* at Keyarkuli, and no intermediate forms have been taken.

824. *Cryptobium sikkimense*, sp. n.

Very near *C. bernhaueri*, but differing in the following respects: the head is not quite so dilated behind, and therefore appears longer, the puncturation is not quite so coarse, whilst that of the thorax is coarser, the posterior half of the elytra is red, the puncturation of the abdomen is coarser. The male character is similar to that of *bernhaueri*. Length 10 mm.

Sikkim: Gopaldhara.

825. *Cryptobium marginatum*. (Fig. 88.)

Cryptobium marginatum Motsch., Bull. Mosc. xxxi, 1858, ii, p. 652.

Cryptobium limbatum Kr.*, Arch. Naturg. xxv, 1859, i, p. 121; Fauv., Rev. d'Ent. xxii, 1903, p. 155.

Black, shining, the head rather less; elytra with the posterior margin narrowly reddish-yellow; abdomen with the posterior margin of the last two segments yellowish. Antennæ reddish-yellow, the middle joints infusate. Legs yellow. Length 7 mm.

Head broader than the thorax, oval, slightly widened behind, the posterior angles broadly rounded, the puncturation coarse, close, and umbilicate, the front margin impunctate. Antennæ with the penultimate joints scarcely longer than broad. Thorax cylindrical, the sides scarcely retracted backwards, the puncturation less close than on the head, along the middle with an impunctate space. Elytra scarcely longer, but a little broader than the thorax, more closely, rugosely punc-

tured. Abdomen finely closely punctured in front, more sparingly behind.

♂: 6th ventral segment with small triangular excision, the apex rounded; 5th sometimes with a small fovea in the middle near the base; 3rd with a short transverse keel; 2nd sometimes with a similar but shorter keel.

Ceylon. Calcutta. Nilgiri Hills. Dehra Dun. Widely distributed in the Oriental Region.

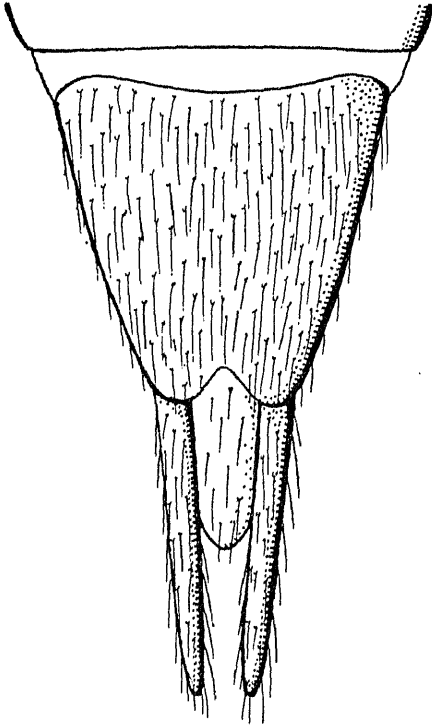


Fig. 88.—*Cryptobium marginatum*, apex of abdomen of ♂; ventral surface.

828. *Cryptobium humerale*. (Fig. 89.)

Cryptobium humerale Cam., Trans. Ent. Soc. Lond. 1924, p. 197.

Black; head opaque, thorax shining, elytra and abdomen moderately shining, the posterior margin and shoulders of the former reddish-testaceous, the posterior margins of the 5th and 6th segments of the latter testaceous; antennæ, palpi, and mandibles ferruginous; legs pale yellow, the knees slightly infusate. Length 9 mm.

Resembling in build *C. marginatum* Motsch., but larger, the head more oval, the posterior angles more broadly rounded, its sculpture and that of the thorax and elytra coarser, the latter also with distinct yellow spot at the shoulders. Head oval, as long as but broader than the thorax, a little widened behind the eyes, the posterior angles strongly rounded, the whole of the front smooth and shining, deeply and broadly impressed on either side, the rest of the surface densely and

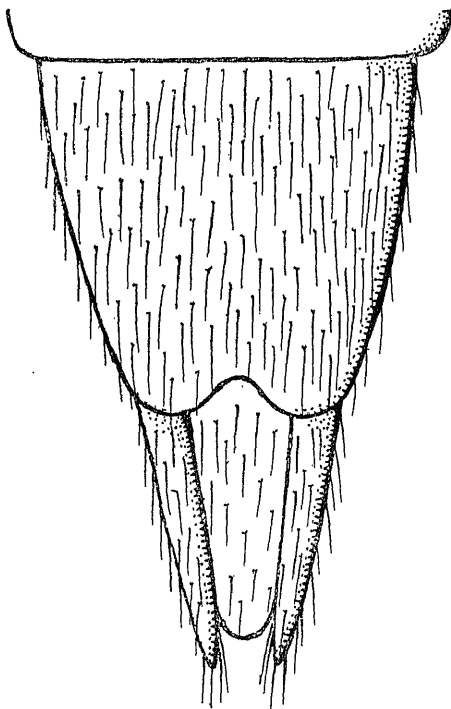


Fig. 89.—*Cryptobium humerale*, apex of abdomen of ♂ ;
ventral surface.

moderately coarsely punctured. Antennæ with all the joints elongate, the 10th scarcely longer than broad, as long as the 11th. Thorax with sides slightly sinuate and narrowed behind, shining, the disc with narrow impunctate space throughout, otherwise coarsely and closely punctured. Elytra a little longer and broader than the thorax, longer than broad, the reflexed sides keeled, coarsely, closely, rugosely punctured. Abdomen moderately finely, closely punctured, more sparingly behind.

♂: 2nd and 3rd ventral segment each with a smooth transverse keel in the middle; 6th with a small arcuate excision.

Mussoorie district: Aglar River; Kaligad; Keyarkuli.

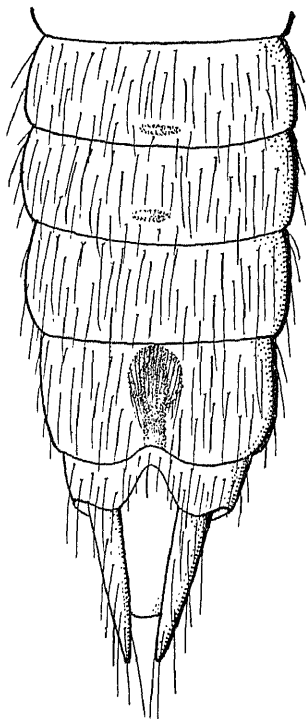


Fig. 90.—*Cryptobium abdominale* var. *indicum*, abdomen of ♂; ventral surface.

827. *Cryptobium abdominale*. (Fig. 90.)

Cryptobium abdominale Motsch., Bull. Mosc. xxxi, 1858, ii, p. 651; p. 402.

Cryptobium pygiale Kr., Arch. Naturg. xxv, 1859, i, p. 121.

Cryptobium pygiale var. *discoideum* Epp., D. E. Z. 1895, p. 402.

Cryptobium pygiale var. *indicum* Kr., Arch. Naturg. xxv, 1859, i, p. 121.

Cryptobium abdominale var. *rufipenne* Motsch., Bull. Mosc. xxxi, 1858, ii, p. 651.

Rather shining, black, the elytra (except the basal third) red; abdomen with the 5th (visible) segment red. Antennæ reddish-yellow, the apex of the 1st and the 2nd to 5th joints infusate. Legs yellow. Length 6 mm.

Var. *discoideum*. Head and abdomen black; elytra red, the base and lateral margin black.

Var. *indicum*. Head and elytra red; abdomen black.

Var. *rufipenne*. Head and abdomen black; elytra red.

Head oblong, broader than the thorax, the posterior angles broadly rounded with the base, closely and moderately finely punctured. Antennæ with the 10th joint scarcely longer than broad. Thorax cylindrical, scarcely retracted behind, along the middle with a smooth raised line, the puncturation almost as close as, but distinctly coarser than, that of the head. Elytra as long as, and a little broader than, the thorax, very similarly punctured. Abdomen very finely and closely punctured.

♂: 6th ventral segment with rather broad triangular emargination, the sides finely bevelled, the apex rounded; 5th with a small, nearly semicircular emargination, in front of it with a large impression reaching nearly to the base, the impression rather thickly clothed with long hairs; 2nd and 5th with short transverse impression behind. Both the type-form and the varieties are widely distributed throughout Ceylon, India, and the Indian Archipelago.

828. *Cryptobium fluviatile*. (Fig. 91.)

Cryptobium fluviatile Champ.*, E. M. M. Ivii, 1921, p. 181.

Black, moderately shining, the posterior margin of the elytra indeterminately reddish. Antennæ reddish-yellow. Legs yellow. Length 7 to 8 mm.

In build resembling *C. abdominale*, but differing in all other respects. Head oblong, coarsely, closely, rugosely punctured, except the front, which has only a few scattered punctures. Antennæ with the penultimate joints scarcely longer than broad. Thorax cylindrical, the sides slightly retracted backwards, along the middle with narrow impunctate line, the rest closely and more coarsely punctured than the head. Elytra as long as, but broader than, the thorax, more closely and more rugosely punctured. Abdomen finely and closely punctured, finely pubescent.

♂: 6th ventral segment with triangular excision, the apex rounded; 5th with large, deep, round fovea in the middle and a small flat tubercle at the middle of the posterior margin; 2nd and 3rd with a transverse sulcus across the middle.

W. Almora: Kumaon (*H. G. Champion*). Dehra Dun: Kaligad. Siwaliks: Mohan Rau (*Cameron*).

829. *Cryptobium bengalense*, sp. n.

Black, but little shining, the sculpture of the fore-parts rugose; abdomen with the posterior margins of the last two segments narrowly reddish-yellow. Antennæ reddish-yellow. Legs yellow. Length 5.5 mm.

In build resembling *C. abdominale*, but smaller, differently coloured, and with much coarser and rougher puncturation of the thorax and elytra. Head oblong, as long as and a little broader than the thorax, the posterior angles broadly rounded, with longitudinal confluent rugæ, the interspaces with *fine* punctures, smooth and shining in front of the antennal tubercles. Antennæ with the penultimate joints a little longer than broad. Thorax cylindrical, along the middle with an

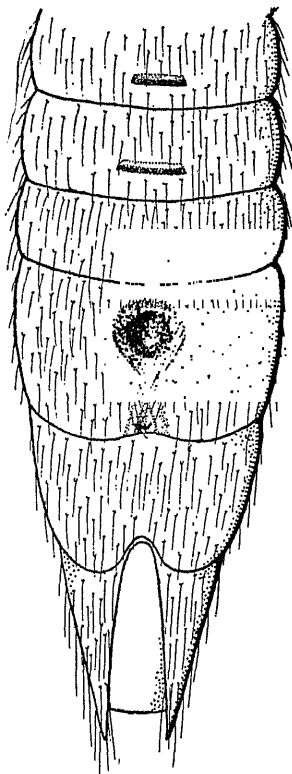


Fig. 91.—*Cryptobium fluviale*. abdomen of ♂ ;
ventral surface.

elevated smooth space, the puncturation coarse, close, and umbilicate, near the middle line more or less longitudinally confluent, forming rugæ. Elytra as long as the thorax, coarsely, closely, rugosely punctured. Abdomen finely and closely punctured, more sparingly behind.

♂ : 6th ventral segment with small arcuate emargination.

Bengal : Paresnath, alt. 4000 to 4800 feet.

830. *Cryptobium kumaonense*. (Fig. 92.)*Cryptobium kumaonense* Champ.*, E. M. M. Ivii, 1921, p. 181.

Dark reddish-brown, the head subopaque, the rest shining, the elytra with the posterior margin indeterminate, rather narrowly reddish-yellow, the shoulders reddish; abdomen with the posterior margin of the 5th and whole of the 6th segment yellowish. Antennæ reddish-yellow. Legs yellow. Length 6 to 7 mm.

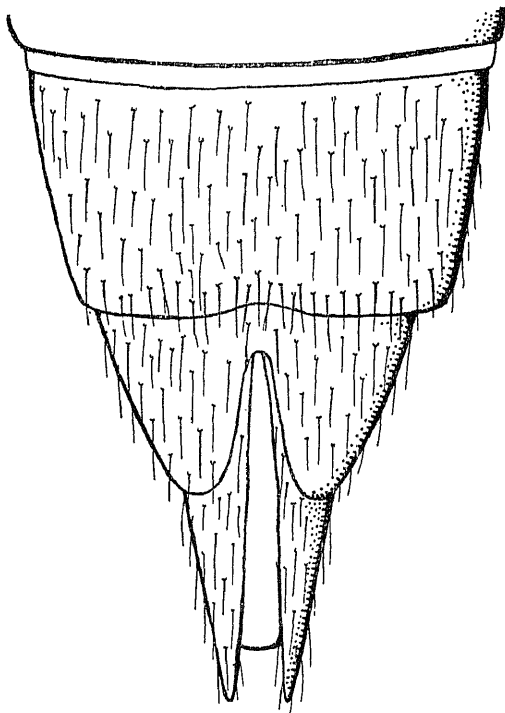


Fig. 92.—*Cryptobium kumaonense*, apex of abdomen of ♂ ;
ventral surface.

Near *C. abdominale*, of similar build, but differing in the colour, longer antennæ, more densely and finely punctured head, narrower more finely punctured thorax, longer, less coarsely punctured elytra.

♂: 6th ventral segment with deep acute triangular excision, the apex rounded; 5th feebly, triangularly impressed before the posterior margin in the middle, scarcely emarginate; 3rd with a short transverse sulcus across the middle.

W. Almora ; Kumaon (*H. G. Champion*). Dehra Dun : Song River ; Mothronwalla. Siwaliks : Kheri Rau ; Mohan Rau (*Cameron*).

831. *Cryptobium paricolor*.

Cryptobium paricolor Epp.*, D. E. Z. 1895, p. 401.

Black, shining, the posterior third of the elytra red. Antennæ red. Legs yellow. Length 9 mm.

Head oval, shorter but a little broader than the thorax, not much dilated behind, rather closely and rather coarsely punctured, but a little less closely in front, with very fine scattered punctures between. Antennæ with the penultimate joints but little longer than broad. Thorax cylindrical, along the middle with a moderately broad smooth space, elsewhere rather closely and more coarsely punctured than the head. Elytra as long as but broader than the thorax, about as coarsely but more closely punctured. Abdomen very finely, moderately closely punctured, finely coriaceous.

♂ : 6th ventral segment more narrowly and more deeply excised than in *ceylanense*.

Bengal : Mt. Paresnath. Siwaliks : Lachiwala.

832. *Cryptobium ceylanense*. (Fig. 93.)

Cryptobium ceylanense Kr., Arch. Naturg. xxv, 1859, i, p. 119 ; Epp., D. E. Z. 1895, p. 401.

Black, shining, the elytra with the posterior third red ; the posterior margin of the last two abdominal segments narrowly reddish. Antennæ red. Legs yellow. Length 9 mm.

Very similar to *C. paricolor*, but the head is more dilated behind and less closely punctured towards the front, the thorax has a broader, smooth, median space and is less closely punctured, towards the sides with a narrow, smooth, longitudinal space which is not found in *paricolor* ; the elytra are less closely and more coarsely punctured.

♂ : 6th ventral segment subtriangularly excised ; 5th very slightly emarginate.

Ceylon.

833. *Cryptobium sanguinolentum*.

Cryptobium sanguinolentum Motsch., Bull. Mosc. xxxi, 1858, ii, p. 650.

Very similar in build and lustre to *C. paricolor*, but the head, although dilated behind, is narrower ; the puncturation is very similar, consisting of large and moderately close punctures with a fine and sparing puncturation between them ; the front

is much more finely and sparingly punctured than elsewhere ; the thorax, elytra, and abdomen are very similarly punctured to those of *paricolor*, but the posterior margin of the elytra is only narrowly red. Length 9 mm.

♂: 6th ventral segment with narrow excision, the apex rounded, the edges bevelled.

Khandesh. Burma : Tenasserim ; Pegu. Mussoorie district. Almora ; Dwarkat. Nilgiri Hills.

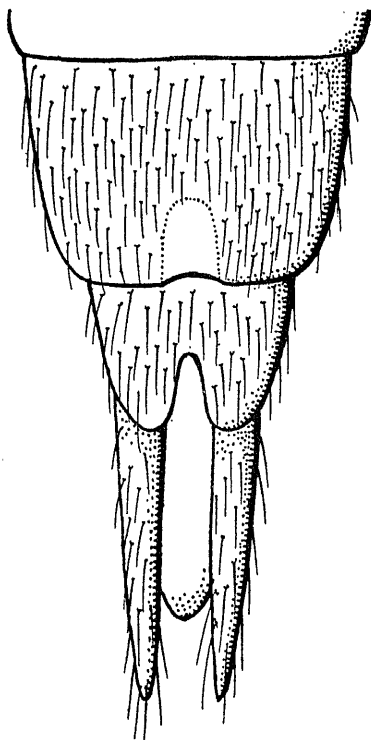


Fig. 93.—*Cryptobium ceylanense*, apex of abdomen of ♂ ; ventral surface.

834. *Cryptobium nilamburens*, sp. n.

In build resembling *C. paricolor*, but smaller (7 mm.), the head opaque, closely and more finely punctured, the punctures in front more or less longitudinally confluent, so that fine rugæ are formed. Elytra as closely, but much more finely, rugosely punctured, the red marking extending a little towards the

scutellum. Abdomen with the last two segments reddish-yellow. In other respects similar to *paricolor*.

Madras : Nilambur (*G. D. Bhasin*).

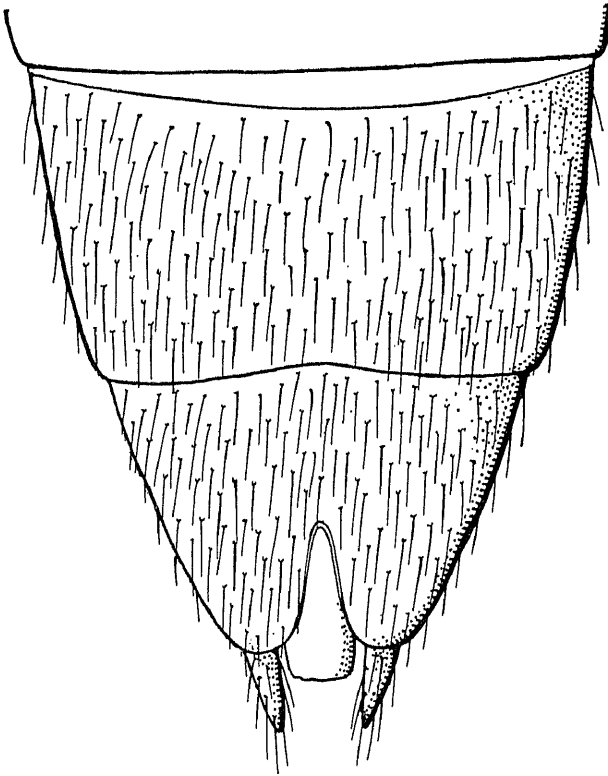


Fig. 94.—*Cryptobium rosti*, apex of abdomen of ♂ : ventral surface.

835. *Cryptobium rosti*. (Fig. 94.)

Cryptobium rosti Schub., D. E. Z. 1908, p. 622.

Black, shining ; head oval. Antennæ red. Femora yellow, the tibiæ and tarsi reddish. Length 8 to 9 mm.

More shining than *C. biforme*, with smaller, less densely punctured head, much less coarsely punctured thorax with broader impunctate median area ; in facies more resembling *C. sanguinolentum*, but differing in the colour of the elytra and more finely punctured thorax. Head a little broader than the thorax, oval, but with rather broadly rounded posterior angles,

the puncturation double, consisting of rather coarse and rather close umbilicate punctures with a fine scattered puncturation between; in front of the eyes the puncturation is finer and more sparing. Antennæ with the penultimate joints scarcely longer than broad. Thorax cylindrical, along the middle with a rather broad impunctate area, the base and a short space on each side impunctate, the rest of the surface covered with rather coarse and rather close punctures. Elytra as long as but broader than the thorax, more coarsely and more closely punctured. Abdomen finely, moderately closely punctured.

♂: 6th ventral segment with narrow deep triangular excision, the apex rounded; 5th slightly emarginate.

W. Himalayas: Kulu; Chakrata and Mussoorie districts, alt. 5000 to 7500 feet; Almora; Dwartat.

APPENDIX.

Amend the Key, p. 66, as follows:—

- | | |
|--|------------------------------------|
| 7. Larger (6 to 7 mm.). Head elongate, more or less conical behind, the post-ocular region long and narrowed to the neck. Antennæ longer | 7a. |
| Smaller (5mm.). Head shorter, post-ocular region rounded to the neck. Antennæ shorter | <i>bispinus</i> Motsch., p. 70. |
| 7a. Thorax narrow, widest about the middle, elytra twice its breadth..... | <i>ophis</i> Fauv., p. 68. |
| Thorax broader, widest before the middle, elytra only a little broader | <i>ceylonicus</i> , sp.n., p. 251. |

P. 68. Add:—

Astenus ceylonicus. sp. n.

Entirely black, moderately shining, the antennæ and legs yellow. Length 6·5 mm.

In build and antennal structure scarcely differing from *suturalis*, but with the elytra a little longer, differently coloured and less roughly punctured; the sculpture of the head and thorax scarcely differs from that of *suturalis*. Head oblong, a fourth longer than broad, broader and a little longer than the thorax, the post-ocular region about twice as long as the eye, gradually retracted to the neck, bi-impressed in front, the sculpture finer than in *biplagiatus* and *bispinus*. Antennæ reaching the base of the thorax, the joints shorter than in *biplagiatus*, longer than in *bispinus*. Thorax formed as in *biplagiatus*, but with finer sculpture. Elytra as long as and a little broader than the thorax, much less roughly punctured than in *biplagiatus*, the sides setiferous. Abdomen moderately finely and rather closely punctured on the first three segments, much more finely and sparingly on the following. The male characters are similar to those of *suturalis*.

Ceylon (without further indication). British Museum Collection.

Amend the Key, p. 110, as follows:—

- | | |
|--|--------------------------------|
| 3.
Thorax not emarginate before the posterior angles. Smaller (5 to 7 mm.) | 4. |
| 4. Elytra nearly opaque, more closely punctured. Length 7 mm. | <i>umbratus</i> Fauv., p. 114. |
| Elytra rather shining, less closely punctured. Length 5 mm. | <i>minor</i> , sp. n., p. 252. |

P. 114. Add:—

Stilocoderus minor, sp. n.

Similar in colour to *umbratus*, and only differs in the smaller size (5 mm.) and more shining elytra with the puncturation less close.

Bengal: Darjeeling, Lopchu, alt. 5000 feet (*J. C. M. Gardner*).

Amend the Key, p. 197, as follows:—

- | | | |
|---|------|-----------------------------|
| 1. Species entirely black or dark brown..... | 2. | |
| Species otherwise coloured | 3. | [p. 198. |
| 2. Thorax serially punctured; black species | | <i>nigerrimum</i> Cam., |
| Thorax irregularly punctured | 2 a. | |
| 2 a. Smaller (8·75 mm.), entirely black | | <i>triste</i> Cam., p. 199. |
| Larger (11 mm.), dark brown..... | | <i>brunneum</i> , sp. n., |
| | | [p. 252. |

P. 199. Add:—

Lathrobium brunneum, sp. n.

Shining dark chestnut-brown. Antennæ blackish. Legs reddish-brown, the tibia blackish. Length 11 mm.

Readily distinguished by the colour and large size. Head suborbicular, a little broader than the thorax, the post-ocular region coarctate with the base, the disc with round smooth space, the rest of the surface rather closely covered with moderate umbilicate punctures less close towards the front. Antennæ with all the joints much longer than broad. Thorax longer than broad, a little narrowed behind, smooth along the middle, the sides rather closely, moderately coarsely punctured. Elytra a good deal longer than the thorax, closely, coarsely, subserially punctured. Abdomen finely and moderately closely punctured throughout.

♂: 6th ventral segment with large semi-oval excision with triangular impression in front extending the whole length of the segment, glabrous in front of the excision, elsewhere rather closely covered with short, stout, black setæ; 5th feebly and broadly emarginate, with slight impression in front.

Sikkim: Rungbong Valley (*Stevens*).

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